

BELIEFS OF PRE-SERVICE TEACHERS AT THE UNIVERSITY OF PITTSBURGH
ABOUT GENDER ROLES AND THE ROLE OF TEACHERS IN RELATION TO
GENDER DIFFERENCES

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BELIEFS OF PRE-SERVICE TEACHERS AT THE UNIVERSITY OF PITTSBURGH ABOUT GENDER ROLES AND THE ROLE OF TEACHERS IN RELATION TO GENDER DIFFERENCES

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The main objective of this study was to describe the beliefs of pre-service teachers at the University of Pittsburgh about gender role differences and their related role and behaviors. Sociological perspectives related to gender differences, and gender and education such as functionalist, conflict, critical and feminist theories were reviewed. Research findings related to teachers' beliefs and practices in the classroom were also reviewed.

The sample of the study included one hundred seventeen male and female pre-service teachers distributed between elementary education program and early childhood education program. A self-administered questionnaire was used to collect the data needed for this study. The questionnaire included three Likert scale parts, a demographic section, and two open ended questions. Descriptive statistics were used to examine the relationships between the variables.

In general, both male and female pre-service teachers tended to hold egalitarian views about gender roles, however, females tended to have a stronger egalitarian views about gender roles than males especially on employment roles. Age and marital status of

pre-service teachers were not related to their beliefs about gender roles. Pre-service teachers also tended to hold egalitarian beliefs about teacher's role in relation to gender roles and about specific males' and females' characteristics and educational practices; these beliefs were significantly related to pre-service teachers' beliefs about gender roles. The findings also showed that pre-service teachers tended to believe that students are the ones who should decide on the preferable gender roles; however, it was acceptable for teachers to be involved in shaping students' perspectives about gender roles. Finally, most pre-service teachers believed that teachers should try to reduce gender stereotypes that result in unequal learning opportunities for students to learn, and they suggested ways to do so.

The most significant implication of this study was the importance of sensitizing pre-service teachers toward issues of gender equity. In addition to the need for schools to adopt policies and recommendations that would provide equal educational opportunities to both males and females.

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CHAPTER I: CONCEPTUAL FRAMEWORK

INTRODUCTION

Children learn the meaning of belonging to any given society and relating to others through a socialization process which begins at a young age. Socialization can be defined as the process by which individuals learn the ways of a given society or social group so that they can function within it (Elkin & Handle, 1991). As part of this process, children learn notions about masculinity and femininity or the appropriate gender roles in their society. Lindsey (1997) defines gender roles as “those expected attitudes and behaviors which a society associates with each sex” (p. 3). Thus, gender roles are expectations for behaviors that a given society or a culture associates with each sex at different ages and in different social contexts. These expected behaviors of males and females are associated with and informed by cultural traditions and social norms. Gender roles are transmitted through gender socialization, a process through which young males and females receive implicit and explicit messages concerning gender-appropriate behaviors as they interact with other adults.

Parents, teachers, peers and the media are among the key agents that teach males and females the “appropriate” behaviors associated socially and culturally with their sexes. As children interact with all these social agencies, they learn to conform to gender stereotypical behaviors. Thus, through different activities, opportunities, encouragements,

discouragements, explicit behaviors, and various forms of guidance, children experience some forms of gender stereotyping (Witt, 1997). Gender stereotypes take place when children are socialized in ways that are perceived as gender-appropriate. For example, females are typically viewed as physically weak, nurturing, cooperative, passive and emotional, whereas males are described as physically strong, independent, aggressive and competitive. The social role of females centers around home and family; the role of the males emphasizes work outside home and involvement in public affairs (Liebert et al., 1986). These stereotypes portray the male as being the dominant person, and the female as being subordinated and dependent on males.

Parents are the primary and most significant agent of socialization (Witt, 1997). As children interact with their parents, they learn what it means to be a male or a female. When children grow older and move into schools, teachers and friends reinforce many of the gender stereotypes. However, Thorne (1993) argues that children are not passive recipients of the socialization process; they act, resist and influence adults just as they are being influenced by them. Schools then become a place where the agency of teachers and students is present as they interact with each other. Schools are also social arenas where children and youth continue to acquire knowledge and technical competency as well as to learn the social norms and beliefs that are appropriate for a particular culture. From a functionalist perspective, schools are social structures that socialize individuals into their future adult roles. However, schools are institutions that reflect and perpetuate gender inequality in society. This inequality is maintained through teachers' beliefs about gender, teachers' practices in the classroom, the curriculum, the sexual division of labor and the school organization.

Teachers are key agents in the gender socialization process that occurs at schools through their spontaneous interaction with children. In the classroom, teachers not only transmit the knowledge in the formal curriculum but also deliver implicit messages conveying to students appropriate values and norms that structure social relations. These unstated messages are known as part of the hidden curriculum. Thus, as teachers enter the classrooms, they bring with them their beliefs concerning societal gender roles. However, research indicates that often times, teachers are unaware of their stereotypical beliefs or the stereotypes that would influence their practices and interactions with male and female students.

In studying the socialization process that takes place in school, researchers have focused on observing teachers' practices in the classrooms and the unequal ways in which they interact with male and female students. For example, much research documented that teachers tend to discipline boys more often but also give them more attention, whereas they tend to give girls less positive and negative attention (Grossman & Grossman, 1994; Dezolt & Hull, 2001; Lips 1997; Renzetti & Curran, 2003; Sadker & Sadker 1982, 1985, 1994; Strettmatter, 1994). Although there is a general agreement in research with regard to teachers interacting more with male students than with female students, there is also some disagreement (Best, 2001; Persell et al., 1999). Much research concerning teachers' interaction patterns with male and female students has investigated teachers' biased practices and behaviors in the classroom without examining teachers' beliefs about and attitudes toward gender roles that may influence their practices in the first place.

It is important to investigate teachers' belief systems because research shows that teachers' and student teachers' beliefs significantly influence their practices in the classroom (Clark & Peterson, 1986; Johnson, 1994; Kagan, 1992; Peterson et al., 1989; Poulson et al., 2001; Sahin et al., 2002). According to Brody (1998), beliefs have a great impact on what teachers do in the classroom, how they conceptualize their instruction, and how they learn from their experiences.

The term "beliefs" has been defined in different ways by educational researchers. Kagan (1992) states that there is no shared understanding of the term "teachers' beliefs". It may refer to perceptions, assumptions, implicit and explicit theories, judgments and opinions, and more (Sahin et al., 2002). A belief is an attitude that incorporates a large amount of cognitive structuring. It suggests an attitude that involves or identifies the subject deeply with the object (Cooper & McVaugh, 1966, p. 26). Within this context, in this study the term "beliefs" involves the feelings, attitudes and opinions regarding gender roles.

Other research has documented inconsistency between teachers' and student teachers' beliefs, and classroom practices (Cooney, 1985; Raymond, 1997). This inconsistency suggests that there are many factors influencing teachers' work, such as the social context of the school, including the values, beliefs and expectations of peers, academic administrators and students, in addition to the need for teachers to follow state mandates, and the stage of their professional development (Fang, 1996; Hativa et al., 2001; Poulson et al., 2001; Thompson, 1992). Nonetheless, there is still a need to examine teachers' beliefs about, or attitudes toward gender roles since teachers' differential behaviors toward their students are often the result of various teachers' beliefs

and attitudes toward their students' gender roles (Tatar & Emmanuel, 2001). Examining teachers' beliefs would probably make them more aware of their beliefs, encourage them to analyze their own ideas about gender issues, and lead to more equitable teaching practices.

PROBLEM STATEMENT AND RESEARCH QUESTIONS

The main focus of this study is to determine the beliefs of pre-service teachers about gender role differences and their related role and behaviors. Gender, age and marital status are considered as independent variables in order delineate the relationship between these variables and the beliefs about or attitudes toward gender roles. Examining teachers' beliefs about gender roles and related educational practices would help prospective teachers identify practices and behaviors that they could utilize to prevent future gender stereotypes. It would also sensitize pre-service teachers toward gender issues and make them more conscious of their beliefs and future practices. According to Borim (2000) beginning teachers' awareness of gender equity is the underpinning of gender sensitive teaching.

It is important to investigate how pre-service teachers perceive gender roles because, (a) prospective teachers may reveal much of their beliefs, as they struggle to develop their teaching practices (Raymond, 1997); (b) prospective teachers have the opportunity to reflect on or change their beliefs about gender roles, and hence their practices as they are still student teachers, and (c) prospective teachers are future teachers

and their beliefs about gender would influence their future practices and the ways in which they would interact with students.

These issues are addressed by focusing on the following problem statement: What are the beliefs of pre-service teachers at the University of Pittsburgh about: (a) gender roles, (b) the role of teachers in relation to gender roles; and (c) specific educational practices in the classroom that affect students' opportunities to learn?

Several research questions were created in order to fulfill the initial purposes of the study:

1. What do pre-service teachers believe about: (a) marital roles, (b) parental roles, (c) employment roles and (d) education roles as they relate to gender?
2. What is the relationship between key demographic characteristics of pre-service teachers (sex, age and marital status) and their beliefs about gender roles?
3. What are the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning?
4. What are the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles?
5. Assuming that some types of gender stereotypes are unacceptable in the classroom, what are the practices that pre-service teachers perceive will reduce those types of gender stereotypes in the classroom?

SIGNIFICANCE OF THE STUDY

A large body of research shows that teachers tend to interact with male and female students differently. There are numerous studies documenting differentiated teachers' practices in the classroom and behaviors toward male and female students. However, there is less research about teachers' beliefs and conceptions concerning gender roles that may direct their practices in the classroom. Delamont (1990) suggests that there are large gaps in research concerning teachers' ideas and beliefs about gender roles. She further adds that teachers' beliefs about gender differences might determine their behaviors that would challenge or reinforce those beliefs held by colleagues and students. Pajares (1992) argues that teachers' attitudes and beliefs should become an important focus of educational research and can inform educational practices. Attitudes strongly influence human decisions (Mueller, 1986), including the ways that teachers teach and interact with male and female students. Teacher attitudes often result in gender differentiated practices in the classroom and throughout school that would then shape students' gender role perceptions, and subsequent behaviors (Beynon 1989; Delamont, 1990). Thus, this research adds to the existing body of research concerning teachers' attitudes/beliefs related to societal gender roles and related teaching practices. This study also contributes to the research concerning pre-service teachers and the impact of the variables gender, age and marital status on their beliefs about gender roles that would affect males and females opportunities to learn.

The findings of this study could be used in teacher education programs to help prospective teachers develop an awareness of gender stereotypes that exist in schools. Research suggests that teachers develop and change their attitudes, beliefs and

perspectives about teaching, teaching practices and students during pre-service education, field experience and on the job professional training (AAUW, 1999; Cooper et al., 1990; Fullan, 1991; Gomez, 1993; Jordan & Folman, 1993).

Therefore, it would be beneficial if teacher education programs help pre-service teachers develop awareness about gender issues through courses and other activities. Borim (2000) argues that awareness about gender equity in classrooms is significant enough as an educational issue, deserving an essential part of teacher education programs (p. 5). Similarly, Robinson (1992) suggests that serious efforts must be made to increase teachers' awareness about their own perceptions about gender roles and to increase their knowledge of gender issues in all aspects of society. Teacher education programs need to place greater emphasis on issues surrounding gender, and how they would affect one's teaching approaches towards male and female students. Thus, awareness about gender equity would encourage beginning teachers to develop an active role in changing traditional views about masculinity and femininity, and in utilizing equitable practices when interacting with male and female students. By the end of the research, I hope it would make future teachers more aware of their beliefs about gender roles and their effects on their teaching practices and on students' achievement, as they are entering the teaching field, and thus, result in more equitable teaching practices and possibly social change.

LIMITATIONS OF THE STUDY

There are several limitations to the study. First, the participants of the study are pre-service teachers who are enrolled in one university and mostly in one educational program. Second, in examining the attitudes of pre-service teachers, the study utilizes the following variables: gender, age and marital status. There are other variables such as ethnic background, religious orientation and years of teaching experiences that are not used in this study.

Third, there are some limitations in the methodology used to collect data. This study attempts to measure the participants' attitudes/beliefs about gender roles and related educational practices using self-administered questionnaires rather than face-to-face interviews or classroom observations. There are many limitations and concerns in using questionnaires or survey methodology: (a) there is the possibility of misunderstanding the questions by the participants. Question wording can have an effect on how the respondents understand and answer the question. Often times, misunderstanding can not be corrected by the researcher; (b) development of a clear and sound questionnaire requires both skill and time; (c) questionnaires can be too long, complicated or boring for the participants to fill out accurately, (d) often times, questionnaires seek responses to pre-determined choice-answers developed by the researcher. Thus, participants' opinions may not have been reflected on the range of choices on the questionnaires, and (e) "captive" participants such as students in the classroom may increase the response rate, but questionnaires are slotted in between other activities such that it would influence their responses (Gay & Airasian, 2000; Gillham, 2000; Salant & Dillman, 1994). In addition, students' responses to questionnaires during

a classroom period may carry some biases in the data because students may feel pressured or obligated to respond in a certain way that would not necessarily reflect their real opinions.

DEFINITION OF TERMS

The following are definitions of the terms utilized in the research:

- Belief: Represents “the [opinion] that an individual has about the object. The object of a belief may be a person, a group of people, an institution, a behavior, a policy, an event, etc., and the association attribute may be any object, trait, property, quality, characteristics, outcome, or event” (Fishbein & Ajzen, 1975, p. 12)
- Attitude: Is defined as a system of three components centering around a single object: (a) the beliefs about the social object—the *cognitive component*; (b) the affect connected to the object—the *feelings component*; and (c) the disposition to take action with respect to the object—the *action tendency component* (Krech et al., 1962, p. 146). Thus, an attitude includes beliefs, feelings and behaviors toward a social object.
- Sex: Is biologically given and is a visible attribute acquired at birth. It refers to the biological and physical characteristics associated with being a male or a female (DeMarrais & LeCompte, 1999).
- Gender: Involves those social, cultural and psychological aspects linked to males and females through particular social contexts (Lindsey, 1997, p.3). It includes

not only the physiological characteristics but also learned cultural behaviors and understanding (DeMarrais & LeCompte, 1999, p. 73). It refers to the social construction of sex.

- Gender roles: Refers to societal expectations attached to being a male or a female. These expectations include ideas about appropriate and inappropriate behaviors, roles, emotions and personality (Wilson & Boudreau, 1986). In other words, they are social roles that a given society views as appropriate for males and females.
- Stereotypes: Are defined as “beliefs concerning the personal attributes of a group of people” (Aiken, 2002, p. 6).
- Gender stereotypes: Refers to shared images or [beliefs] concerning the categories male and females. These categories are stereotyped such that members of the category are assumed to possess certain characteristics by virtue of their biological differences (Lindsey, 1997, p. 2).
- Gender equity: Is “freedom from bias of one gender group over another. An environment in which fair and equitable opportunities, access, benefits, and resources are available to both sexes” (Dezolt & Hull, 2001, p. 257).
- An egalitarian orientation about gender roles: Reflects non-biased views about gender roles and perceives males and females to have equal or same social roles, and thus results in social equality between the sexes.
- Traditional orientation about gender roles: Views males and females to perform different and traditionally stereotyped social roles, and this would create social inequality between the sexes.

CHAPTER II: REVIEW OF THE LITERATURE

INTRODUCTION

This chapter discusses the theoretical perspectives and empirical research literature that address gender role differences, drawing upon work involving a range of international contexts. The first section focuses on different sociological arguments and global perspectives as they relate to gender role differences. The second section reviews the sociological theories that are related to the role of schooling, in particularly teachers' role, in reproducing gender roles differences and inequalities. The last section presents the research findings related to teachers' beliefs and interaction patterns with male and female students in the classroom.

SOCIOLOGICAL AND GLOBAL PERSPECTIVES RELATED TO GENDER ROLE DIFFERENCES

There is a range of theoretical perspectives across many disciplines that have examined gender role differences and gender inequalities within a society: Biological, psychological, anthropological, historical, sociological and feminist theory. However, in this section, gender role differences are addressed only through major sociological and feminism frameworks. I will mainly draw upon two theoretical paradigms in sociology:

Functionalist and conflict theories. In addition, I will draw upon feminist theory including, liberal, socialist and radical feminist perspectives. In the last part of this section, I will look at different international contexts to further understand gender role differences in a global perspective.

A. Functionalist Theories

Functionalist theorists view society as a system made up of interrelated parts. Each part or element functions in some way to maintain the stability and survival of the whole society. Functionalists argue that society operates as a ‘living organism’ in that it has different parts or structures that function interdependently to ensure the survival of the organism; social structures and entities work together to maintain the social order of society. Functionalists emphasis on harmony and social stability, assumes that each individual adhere to a prescribed role and each social structure carries out a certain function to achieve a balanced or equilibrium system (DeMarrais & LeCompte, 1999; Macionis, 2002; Morrow & Torres, 1995).

Parsons, a significant functionalist, points out that the first principle underlying all groups is the interdependency of their members. For example, in a “traditional family”, the wife would depend on her husband for financial support, and the husband would rely on his wife for caring for the children. The children naturally would depend on their parents for nurturance and survival. Thus, every family member depends on others for some kind of support. Parsons further suggests that social values play a significant role in bonding the family members together. These values are taught to children through the socialization process. The outcome of such socialization is that children will learn the

expected roles associated with their sexes and will grow up to be socially fit adult men and women in terms of their gender roles (Doyle, 1985, pp. 106-107).

In their analysis of gender, functionalists focus on the biological differences between males and females. One of the biological facts is that men tend to be bigger and physically stronger, whereas women are biologically equipped to bear and nurture children. According to functionalists, these biological differences have led to the formation of different *gender roles*. The concept of gender roles refers to the “social roles that are prescribed for a society’s members depending on their sex”. Men’s and women’s roles are opposite, but complementary in nature (Renzetti & Curran, 1999, p. 4).

Functionalists assume that a woman’s reproductive and physiological functions link her to the domestic sphere, in which it seems natural for women to bear and nurse children (Ortner, 1974)¹. In contrast, men’s biology better prepare them for the roles of economic providers and protectors of the family (Mascia-Lees & Black, 2000; Renzetti & Curran, 1999); roles that are associated with the public sphere. As Parsons and Bales (1955) explain it:

In our opinion the fundamental explanation for the allocation of the roles between the biological sexes lies in the fact that the bearing and early nursing of children establishes a strong and presumptive primacy of the relation of mother to the small child and this in turn establishes a presumption that the man who is exempted from these biological functions should specialize in the alternative occupational direction (p. 23).

Functionalists point out that gender roles emerged early in human history to help in the survival of the group. According to Lindsay (1997) “in pre-industrial societies, such as those which depended on hunting and gathering, men and women fulfilled different roles and took on different tasks because it was most useful or functional for society to do

¹ Also see Brettell & Sargent 2001

so” (p.6). In such societies, males and females performed different, yet complementary and independent roles due to the differences in their biological make up.

Functionalism determines a similar set of principles related to gender roles in the modern family systems as well. Parson and Bales (1955) argue that there is less disruption and competition, thus more harmony and stability when spouses assume complementary and specialized roles. They describe the man’s role as “the instrumental role”, in which the husband or the father helps to maintain the social and physical integrity of the family by providing the basic needs to the members of the family. On the other hand, they argue that women’s role is associated with nurturance and caring. They characterize women’s role as “expressive”, which implies that the role of the mother or wife is to provide love, care and emotional support (Lindsey, 1997, p. 6). Both males and females’ complementary roles are considered important because they contribute to maintaining the stability of the family. Women’s productive and domestic roles are significant to the production of members of any given society, but some functionalist devaluated “traditional women’s work” as opposed to men’s work in the public realm (Renzetti & Curran, 1999). In my view, although there are biological differences between males and females, that does not mean that one sex or gender is better or valued more than the other. Neither does it justify the subordination of women occurring in some parts of the world.

B. Conflict Theory

Deriving from the contribution of Karl Marx and Friedrich Engels, conflict theory is based on the assumption that society is a system where inequalities lead to conflict,

which in turn leads to social change or revolutions. In such conflict mode, there are always competing interests and fundamental struggle between dominant and subordinated groups (Ginsburg, 1998; Morrow & Torres, 1995). Unlike the functionalist emphasis on stability of social systems, this paradigm highlights “how factors such as gender, race, ethnicity and age are linked to the unequal distribution of power, education and social prestige” (Macionis 2002, p. 15). Conflict theories have argued, “traditional gender roles are one of the most powerful mechanisms by which men dominate women”. They also noted that traditional gender roles serve men by encouraging the ideology that women are inferior to men and thus, they should remain under men’s economic domination (Doyle, 1985, p. 109).

For Marx, the most significant form of social conflict was class conflict arising from the way a society produces material goods and therefore inequality of resource distribution. Marx assumes that society is equated with the totality of material and social relations that are determined through economic production relationships (Hurrelmann, 1988, p. 32).² Conflict theory, developed by Marxists and neo-Marxists, assumes that the organization of a society is “determined by its economic organization and in particular by patterns of ownership” (Bennett & LeCompte, 1999, p.10). According to Marx, conflict between capitalists, people who own and operate business, and workers whom he called proletarians is inevitable in a system of capitalist production. To keep profits high, workers are exploited by selling their labor for low wages (Macionis, 2002; Mascia-Lees & Black, 2000). Marx analysis of sex differences and sex discrimination originated from historical development. He initially analyzed changes in material conditions. He assumed that access to private property and surplus capital is the foundation of the patriarchal

² Also see Firestone 1970

family system in which the father is the head of the household, and in which women and children are subjected to the father's authority (Holter, 1972, p. 332)

Engels applied Marxist assumptions to the division of labor within the family, in which the husband was the owner and the dominant family member, whereas the wife was the means of production (Firestone, 1970; Lindsey, 1997). Engels argues that "primitive societies were essentially egalitarian because there was no surplus generated; hence no private property. Once the private property emerged, capitalistic institutions developed and power came to be consolidated in the hands of men" (Lindsey, 1997, p. 8). This perspective is evident in Lockwood's (2003) work on the differential effects of capitalism around the world. She points out that capitalist development and processes have contributed to the deterioration of women's social status in many developing regions and introduced gender biases that did not previously exist in non-western societies.

Socialist feminism view was influenced by Marx-Engels model, which suggests that the inferior position of women in society is linked to capitalism and the patriarchal family structure in such system. Socialist feminists argue that both men and women exist in interconnected relationship of gender and class. They consider the family and the school as sites for the reproduction of women's oppression since they transmit patriarchal messages (Weiler, 1988; Weiner, 1994; Stromquist, 1989). Socialist feminists are mostly concerned about the role of the household in capitalistic society and the relationship between women with the modes of production (Donovan, 2000, p.90). They further argue that sexism is functional for capitalism because it is supported by the unpaid labor of women who are perceived as a reserve labor force only if needed. In addition, when

women do work they are exploited because they either receive low wages, yielding to high corporate profits or they serve as unpaid, invisible house labor. The unsupportive economic system, leads to the situation in which the wife becomes initially dependent on the husband, but this soon turns into dependence, passivity (Deckard, 1975, p. 416; Lindsey, 1997, p. 15) and vulnerability. Thus, socialist feminists suggest the elimination of gender division of labor, the participation of men in child bearing and the reproductive freedom of women (Weedon, 1997; Weiner, 1994).

C. Feminist Theories

In the previous section, the socialist feminist theories were reviewed. In this section, the liberal feminists and the radical feminists theories are discussed. Liberal feminists focus on the rights of individual women; they work to transform traditional beliefs about masculinity and femininity as well as to achieve equal opportunities in all life spheres by abolishing traditions and activities that inhibit equal participation. They advocate individual choice rather than biological differences as the factor that determines what men and women do in their families and in the work place (Weedon, 1997; Weiner, 1994). Liberal feminists devoted a lot of attention to the relationship between women and schooling. They analyzed sex stereotypes and biases toward females in curricular materials and school practices; they attributed the gender inequalities, particularly in education, to the negative socialization messages confronting women in the family and the school. They also emphasized the critical role of the state to restore equal conditions to women (Weiler, 1988; Stromquist, 1989).

Radical feminists consider sex stratification and sexist forms of interaction primarily as a psychological phenomenon. They view the different reproductive roles for men and women as the cause of sex stratification (Nielsen, 1990). Thus, women's biology made them dependent on men for survival (Firestone, 1970). According to Stromquist (1989), radical feminists argue that the main cause of women's subordination originates from power relations based on the biological differences between men and women, and the patriarchal family. Patriarchy is "an ideological system" that is founded on the premise that men are superior to women and is maintained through a hierarchy and solidarity among men to sustain the domination (Brock-Utne, 1989; Weiner, 1994).

Radical feminists identify the family as the key instrument in the oppression of women through reproducing the sexual division of labor, sexual slavery, forced motherhood and patriarchal ideologies (Weedon, 1997). They argue that the identification of women as mothers and housekeepers creates an "artificial" yet overwhelmingly "private" world for women and "public" world for men. They also see schools as another agent that perpetuates women's subordination to men (Stromquist, 1989, p. 171).

Radical feminists advocate women's separation from men in order for them to assert their autonomy and develop a women's culture independent of men (Weedon, 1997). For example, they would view single-sex schools as the way to begin developing an "empowering women culture" (DeMarrais & LeCompte, 1999, p. 36). However, it is my assumption that single-sex schooling does not always empower females but rather it can reproduce gender inequality because of the different and probably unequal curriculum and resources that are available in boys' and girls' single-sex schools.

To broaden our understanding of gender inequalities, I will look at the position of women, and a variety of cultural patterns pertaining to women across different international contexts. The discussion will draw mainly on examples from the Middle East and other selected countries, including capitalistic and Asian countries.

D. Gender in a Global Perspective

Many studies have focused on gender inequalities in relation to the position of women, in different spheres of social life such as education, work, family, health and fertility, culture, and government and political participation. According to El-Sanabary (1991) Middle Eastern girls are, in general, socialized into accepting the predominant sex-role stereotypes with marriage and raising a family as the ultimate goal. Schools continue to reinforce the differences between the genders. The prevailing attitude is that a woman should stay at home to care for the children while the man is the guardian and the breadwinner. She further adds that Middle Eastern women, as in many other countries, have lower social and economic status than men. Nonetheless, Lindsey (1997) reports that women in countries such as Egypt have overcome societal and religious pressures to attain success outside the home.

One of the issues pertaining to Arab countries in the Middle East is *sharaf* (honor), which means the preservation of girls' virginity before marriage and respecting women's sexual conduct. Family honor depends on conformity of females to "modesty code" (Accad, 1991; Rassam, 1984). This would result in practices such as sexual segregation; parental surveillance; veiling, early marriages and sex-role socialization to guard the women's sexuality and honor. However, Arab countries vary in the

interpretation of the code depending on the level of development and education, religious commitment and the exposure to Western influences (El-Sanabary, 1991, p.111). In the Arab world, female chastity is seen as a boundary between respect and shame. In countries like Egypt, Jordan and some Persian Gulf countries, honor killings are found among tribal and rural areas. Killing of unchaste girl or a woman by their relatives is seen as a way to cleanse family's honor (Jehl, 2003). In other particular parts of the region such as rural areas in Egypt, Sudan and Somalia the practice of female circumcision continues to be performed on young girls despite the harmful, life threatening consequences for females. Although the practice is not found in the Islamic religion, it is so pervasive and is customary designed to ensure female's premarital virginity (Abusharaf, 2003; Gruenbaum, 2001; Lindsey, 1997). Male's circumcision is widely practiced in the Middle East; however, male's circumcision is a procedure that is not as damaging as female's circumcision.

Besides the issue of female's sexuality, many scholars have addressed the unequal educational and occupational opportunities for males and females in the Third World countries. (Herz et al., 1991; Hill & King, 1993; Kelly & Elliott, 1982; Lockheed & Verspoor, 1991; Stromquist, 1989). El-Sanabary (1991) study of seven Middle Eastern countries: Turkey, Jordan, Egypt, Morocco, Tunisia, Kuwait and Saudi Arabia, highlights the factors that hinder women's equal participation in education. Through reviewing governmental reports and empirical studies, El-Sanabary reports that among the influential factors are parental attitudes and aspiration towards sending girls to school, economic conditions of the household, religious and cultural values, women's

participation in the work force, stereotypes in textbooks, lack of female teachers, quality of schools and the quality of female schools.

Other scholars have focused on the transformation of women's role and gender inequalities after a political revolution or a major political transformation has taken place. In the case of Iran, a fundamentalist Islamic country, women participated in the revolutionary movement in 1979 to overthrow the Shah and supported the establishment of the new Islamic government under Khomeini. Many women believed that under the new leadership the sacrifices and militancy they showed would be rewarded and that the religious leaders would grant women their rights. However, the new Islamic regime imposed the veil and modesty dress on women, and described motherhood and domesticity as socially valued. It also advocated that males and females roles are separate and distinct, which led to the desirability of gender segregation in public places (Moghadam, 1995; Tabari & Yeganeh, 1982). According to Tohidi (1991) with the Khomeini's death, the new government has continued to push women out of the public into the domestic roles.

In industrialized countries, the presence of gender inequality is not very different from that in other parts of the world; however, the causes of such inequality might differ. The basis of gender inequality in industrialized societies is related to capitalism and economic factors. Many scholars pointed out to the negative impact of the global economy and capitalism on the status of women (Norris, 1992; Warning, 1988). As Lockwood (2001) puts it:

Capitalist enterprises benefit from the structural separation of the productive and domestic domains because, since women do not work, they do not have to be compensated for their labor; they also benefit in that

women serve as a relatively inexpensive, available and easily dismissed pool of labor (p. 532).

In the United States, although advances have been made for women in educational and career opportunities, scholars and researchers report that American women continue to face inequalities at work. According to Bonvillain (1998) and Lindsey (1997), the most important economic trend throughout the twentieth century has been the increase in women's participation in paid employment. Women of all categories, single women, married women without children and mothers increasingly have continued to work outside in the public sphere. Despite the gains in employment, women face discrimination in the work place such as lower wages, and lack of access to certain kinds of jobs and positions. Consequently, the labor market in the United States continues to be a "dual labor market", characterized by one set of jobs employing almost exclusively men and another set of jobs, viewed as secondary, employing mostly by women (Renzetti & Curran, 2003, p. 219). Nielsen (1990) also observes that in the United States, women make up a small proportion of elected and appointed offices political rights.

O'Kelly and Carney (1986) report, that the most striking inequality between males and female workers in Sweden is the extent and persistence of gender segregation in the labor force. Over 50% of the working women are still mostly in clerical, secretarial, nursing, teaching and retail sale-the typical "pink collar" jobs of the United States. They add that occupational segregation continues as in the United States, but the pay gap has been narrowed more effectively in Sweden.

There are similar trends in Japan as well. According to Saso (1990) like women throughout the world, women in the Japanese labor force are constrained by restrictive and stereotyped gender roles. Although they make up almost half of the work force, they

occupy lower-level jobs and earn much less than the average male. Despite women's participation in the work force, women have social obligations. In Japan, women strongly believe that their goal in life is to bear and educate their children. Working Japanese women in general have a greater burden than their counterparts in the West in being responsible for almost all of the household and child-rearing work (Saso, 1990). According to White (1987), Japanese mothers' devotion to the child's needs and education gives the mother a sense of responsibility and self-expression.

In addition, there are other patterns of gender inequality that exists in other Asian countries. In the case of China, women yet face another form of discrimination. According to Lindsey (1997) centuries of tradition in Chinese culture continue today, especially in rural areas, where adult women remain nameless. When married, they are referred to as "old women". Even at death no personal name appears on the tombstone. Watson's (2001) ethnographic research carried out in a village located in the New Territory documents such custom. The naming ceremony of a boy at birth involves festivities, while the girl's naming involves a little celebration, especially since she will lose it when she gets married. According to Watson, "the nameless of adult women and their inability to participate in naming of others highlight the vast gender distinctions that characterize traditional Chinese culture" (p. 167).

As in China, in India, when a woman or a girl marries, she moves to the village of her husband and into his household. As she moves, she is expected to bring money and all kind of material goods to help assist in the expenses of the marriage. This form of wealth is identified as dowry and is viewed as an inheritance for women. However, the dowry system in India has taken a serious turn as brides are burned to death, poised or

otherwise accidentally killed by husbands and in-laws who believe that the dowries brought by the women were inadequate (Black, 1991; Stone & James, 2001). According to Stone and James (2001) the legislations attempting to stop dowry death are ineffective since the dowry system is so embedded in the local culture.

SOCIOLOGICAL PERSPECTIVES RELATED TO SCHOOLING AND GENDER ROLE DIFFERENCES

To provide an understanding on the role played by teachers in schools in reproducing gender inequalities, it is necessary to identify the functions of schooling and review its role in maintaining such inequalities. I will draw mainly on sociologist and feminist perspectives to examine the role of schooling in reproducing gender inequalities. For example, functionalists such as Parsons (1959) addressed how society's ways of life and values are passed through generations by means of education. Conflict theorists such as Bowels and Gintis (1976) are concerned with how schools promote and reproduce the inequalities in society. Unlike functionalist and conflict theorists, critical theorists have focused on the role of teachers' and students' agency in resisting unequal schooling practices. Feminists' theorists, in their analysis of inequalities in education, introduced the gender dimension and examined the role of schooling in justifying and creating gender inequalities in society.

A. Sociologists Perspectives

Functionalists analyzed the way in which education contributes to the operation of society. From a functional point of view, educational systems are social structures that

carry out the function of transmission of attitudes, values, norms and beliefs from one generation to the next (DeMarrais & LeCompte, 1999; Macionis, 2002). In other words, education is a socializing agency that contributes to the stability of society. Parsons (1959) describes this process by stating that education is an agency through which individual personalities are trained to be motivationally and technically adequate to the performance of the future adult roles (p. 297). Thus, schooling is a social agency that influences the socialization process of students and teaches them the social norms related to gender roles. According to Giroux (1983), the social norms and moral beliefs are “tacitly transmitted through the socialization process that structures classroom social relationships” (p. 48). Thus, students form or reshape their conceptions about gender roles by interacting with teachers and other students, and by their overall schooling experiences. As Megarry (1984) puts it:

There is evidence from all over the world that education systems exaggerate the effects of sex differences, and do so in ways, which limit the educational opportunities of females in particular. Gender-typing recurs in the official curriculum, teaching materials and organization of subject choice, in teacher behavior both inside and outside the classroom, and in the hidden curriculum of traditional assumptions, unquestioned expectations and codes of behaviors (p. 22).

Therefore, teachers’ practices in the classroom, the hidden curriculum and the structure and social life of the school are elements that influence the students’ conceptions about gender roles. The hidden curriculum refers to the implicit or unstated messages that convey to students appropriate values, norms and beliefs that structure social relations in society and schools (DeMarrais & LeCompte, 1999; Giroux, 1983; Jackson, 1968;). According to Serbin (1983), because teachers are often unaware of their different expectations and practices in relation to students’ gender, reinforcing the sex-

typing behavior of students in the classroom is often referred to as “hidden curriculum”. Teachers’ responses, expectations regarding occupational and familiar roles, the behavioral norms and disciplinary sanctions and the evolutions of male and female behaviors are all part of the hidden curriculum (Sromquists, Lee & Brock-Utne, 1998).

Merton (1968), a U.S. sociologist and a student of Parsons, refers to the hidden curriculum as he expanded on the functions of schooling. He assumes that social structures have manifest functions and latent functions. Manifest functions are the “intended and recognized” functions whereas the latent functions are consequences that are “neither intended nor recognized” by the participants in a social system (p. 105). In relation to education, the primary or manifest function of education is transmitting cultural knowledge from an elder generation to the next. However, the secondary or latent functions of education are those things that are not stated in the official curriculum. These are parts of the hidden curriculum, which exists simultaneously with the formal curriculum (Jones, Gallagher & McFalls, 1995). The hidden curriculum conveys values and beliefs to students. It is found in the “messages and norms embedded in classroom social relations and practices” (Giroux, 1983, p. 67). Thus, teachers- students’ interaction patterns and the school structure deliver to students implicit messages about the appropriate behaviors and social values, including proper gender roles associated with their sexes.

The purpose of education and the role of the teacher viewed by conflict theorists differ from those of functionalists. Conflict theorists view education as a place for reproducing both the ideologies and interests of the dominant social groups and the hierarchy of the class structure. This view is known as the reproduction theory: Schools

work to integrate individuals into an inequitable system while simultaneously legitimizing that inequality (Arum & Beattie, 2000; DeMarrais & LeCompte, 1999; Morrow & Torres, 1995; Weiler, 1988). Bowles and Gintis (1976) are two significant conflict theorists who argued that schools function is to reproduce, maintain and perpetuate the existing hierarchically structured division of labor that is part of a capitalistic society.

Drawing on the work of Bowles and Gintis, conflict theorists employed correspondence theory to analyze how society's economic organization is mirrored in its institutions and vice versa (Morrow & Torres, 1995). Correspondence also refers to other aspects of societal organizations being reflected in institutions such as school. For example, schools tend to mirror the inequalities in society through the hidden and explicit curriculum, that is to say the skills and attitudes that are learned in schools correspond to the students' future work roles (DeMarrais & LeCompte, 1999). Hence, the hidden curriculum also conveys to students messages about gender roles.

Informed by conflict theorists, critical theorists argue that society is both exploitive and oppressive, but also is capable of change. Critical theorists refer to active involvement of participants as human agency and thus hope for transformation of society due to the existence of agency. Educational critical theorists focus on the ways in which both teachers and students in schools produce meanings through resistance and collective conscious (DeMarrais & LeCompte, 1999; Weiler, 1988). According to Connell (1996) schools are a site where the agency of students and teachers are in play. Connell (2000) further argues that gender relations are "constantly renegotiated in the changing arena

provided by the school” (p. 290) as students and teachers mutually and spontaneously interact with each other.

Educational critical theorists are also concerned with identifying the hidden curriculum and fostering resistance both in classroom and curriculum content, and in the ways educational administrators run their schools (Agger, 1998). For Giroux and other critical theorists, teachers must become transformative intellectuals and critical pedagogues in order to resist the oppression of the dominant culture and to produce alternative cultures within schools (Giroux, 1983; DeMarrais & LeCompte, 1999; Morrow & Torres, 1995). In other words, teachers must continue to be critical of the school structure, reflect upon their own practices in the classrooms, become more conscious of the hidden messages that underpin their practices, and seek to challenge the social inequalities that they continue to confront in schools and societies

Ginsburg et al. (1995) describe the reality of teachers’ work and the nature of power relations that are part of their world. As they put it:

[Teachers] work and live within unequal relations of power. Whether characterized in terms of capitalism, patriarchy, racial or ethnic oppression, religious-or secular-state, authoritarianism, or imperialism, the unequal, dominant-subordinate aspect of power relations is embedded currently not only in local, national, and global communities. They also are extant in [teachers’] immediate work sites (classrooms and campuses) as well as educational systems more generally (p.7).

Within such inequalities, teachers can be considered as political actors. They can be engaged in political action in their pedagogical and curricular work, in their interactions with students, parents, colleagues and administrators, and in their role as citizens (Ginsburg & Kamat, 1995). Thus, teachers can play active role in understanding and

resisting social inequalities, including gender inequality that may exist in the classrooms and society in general.

B. Feminist Perspectives

According to Weiler (1988) sociologists have been concerned with the production and reproduction of class through the schooling process under capitalism, whereas feminist theorists have been concerned with the production and reproduction of gender inequality under a patriarchal system. In this section, I will only discuss socialist and radical feminists perspectives on gender and schooling since the contribution of liberal feminists and their significant role in the provision of education for girls and women have been discussed earlier.

Besides liberal feminists, other feminists have also been concerned with issues related to women's education. For example, socialist feminists have looked critically at the role that education systems play in creating social inequalities. They argue that schools reproduce both gender and class inequality. They suggest that schools direct a range of messages about the appropriate roles and activities for girls and thus occupy a central role in reproducing the division of labor across the generations (Measor & Sikes, 1992; Stromquist, 1989). They tie women's inferior position in the economy to the sex stereotyping prevalent in curricular materials and the biased practices in schools. In other words, they focus on the connection between sexist practices in schools and women's oppression in society (Wieler, 1988). One of the issues that socialist feminists fight against is the passive acceptance of the socialization process that takes place in school. Thus, they call for resistance and total transformation in the patriarchal school system,

practices and policies for men and women (Weedon, 1997). Therefore, teachers are perceived as active agents in such transformation process.

Unlike liberal and socialist feminists, radical feminists' account of education is related to the way in which patriarchy functions in schools. They suggest that boys dominate schools and classrooms and that this influences girls' performance at school. The central argument is that boys dominate the classroom and take a great share of teacher's attention. They argue that teachers' concentration on boys and the ways they treat girls in comparison with the boys, result in lowering the girls' self-esteem (Measor & Sikes, 1992). Radical feminist perspective also highlights the role of sexuality control upon women's and girls' education. The position held by parents in some regions of the Third world that schools are not suitable for their daughters, manifests the control over women's sexuality (Hill & King, 1993; Stromquist, 1989). Radical feminists also argue that girls experience a great deal of sexual harassment in schools by fellow students and male teachers (Measor & Sikes, 1992). According to Mahony (1985) "boys spend an enormous amount of time and energy in the social control of girls. A great deal of what is said by boys and girls, constitutes verbal abuse and all the girls suffer from some form of harassment in schools" (p. 53).

The aforementioned discussion examined the role of schooling in reproducing gender inequalities through major sociologist and feminist perspectives. To further understand the role of education and in particular the role of teachers in reproducing gender inequalities in society, I will draw upon different research findings involving mainly the U.S. education system and selected findings from other countries.

RESEARCH FINDINGS RELATED TO TEACHERS AND GENDER ISSUES IN THE CLASSROOM

To further understand the way in which schooling and, in particular teachers, reproduce gender inequalities in society, I will look at different research findings related to teachers' beliefs and expectations, and their biased practices in the classroom, all of which are part of the hidden curriculum. Here, I focus on teachers' beliefs and practices because the teacher is a key element in the educational systems (Doyle, 1985) and thus, he/she has a great influence on students' perceptions about the appropriate gender roles. Doyle further states that what and how students learn and how they see themselves and define their roles are influenced by the teachers' expectations and behaviors and by the effects of the teacher being a role model for them.

A. Beliefs and Expectations of Teachers

Teachers are not a homogenous group. Just as students, teachers come from different social classes, cultural and ethnic background, and religious and political orientations. All these factors would have some influence to various degrees on teachers' beliefs, values and practices in the classroom. Teachers' beliefs and value system motivate their practices and behaviors toward male and female students. Fennema (1990) points out that classroom instruction is influenced by the decisions that teachers make, which are directly governed by their beliefs (p. 171). Teachers' beliefs are defined as "tacit, often unconsciously held assumptions about students, classrooms, and the academic material to be taught" (Kagan, 1992, p. 65). Lindley and Keithely (1991) point out that values, attitudes and stereotypes influence the expectations of teachers as they

interact with students. They further add that teachers and administrators carry the messages they have acquired from their own childhood and adult years and communicate them directly or indirectly as they interact with students. This implies that gender inequity in the classroom may be the result of the different hidden expectations and beliefs that teachers hold about students' gender roles, which reflect the existing societal and cultural stereotypes.

Often times, teachers have a definition of how female and male students are supposed to behave as defined by their culture, society and school norms. According to Jones and Wheatley (1988) teachers are a reflection of the values and expectations of society, and thus it is not unusual to find that teachers are perpetuating stereotypes while teaching. Spindler (1997) observes that most of the teachers are “products of their culture and live within the framework of values and symbols that are part of that culture” (p. 260). Therefore, teachers tend to encourage certain gender stereotypical behaviors that are appropriate in a given society. For example, in the United States, many teachers have been socialized to believe that males should be aggressive, competent, assertive, and independent; whereas females should be passive, kind, shy and dependent (Sadker & Sadker, 1982). These gender expectations and cultural stereotypes are reflected in schools as teachers interact daily with students and deliver strong messages to male and female students about the appropriate behaviors associated with their sexes.

Eliason and Jenkins (1994) state that too often teachers expect different behaviors from boys and girls. For example, boys are expected to behave in a courageous and aggressive way whereas they expect girls to be submissive, polite, neat, gentle and kind. Llewellyn (1998) argues that teachers hold the assumption that it is “natural” for boys to

be boisterous, competitive, unruly and, therefore, disruptive. However there is little tolerance for the same behavior in girls and, as a result, this is often counteracted with harsh consequences and unfounded judgments about their moral characters from both teachers and students. On the other hand, passive, submissive, polite and obedient behaviors are rewarded, reinforcing the narrow, conservative and stereotypical model of femininity.

Several studies have investigated teachers' differential expectations for male and female students. In a survey study, involving 70 classroom teachers, Benz, Pfeiffer and Newman (1981) assessed the effects of the student sex and student achievement on teachers' sex role expectations. They found that the teachers classified their high achieving male and female students as masculine while they classified their low achieving male and female students as feminine. In interviewing thirty-eight first grade Math teachers in twenty-four schools in the U.S., Fennema et al. (1990) found that these teachers perceived male students as being their most successful students. These teachers believed that boys' successes were attributed mostly to ability while girls' successes were attributed to effort. They also thought that their best male students were more competitive, more logical, volunteered answers more often to mathematics problems, enjoyed mathematics more and exhibited more autonomous learning behaviors when compared to their best female students.

In a recent study conducted in Germany, Tiedemann (2002) found teachers' perceptions to be consistent with stereotypes of gender differences. The study involved randomly selected 48 elementary school teachers from a German town who responded to a survey concerning their perceptions about 300 of their third and fourth grade students.

The study revealed that boys were considered to have higher mathematical abilities and to possess more talent than girls. Similarly, in surveying 42 female elementary teachers in the state of Iowa, Shepardson and Pizzini (1992) found that the teachers perceived boys to possess more scientific skills than girls. In another study, involving six educational institutions in Australia, Robinson (1992) found that teachers perceived girls to be easier to discipline because of their submissive nature.

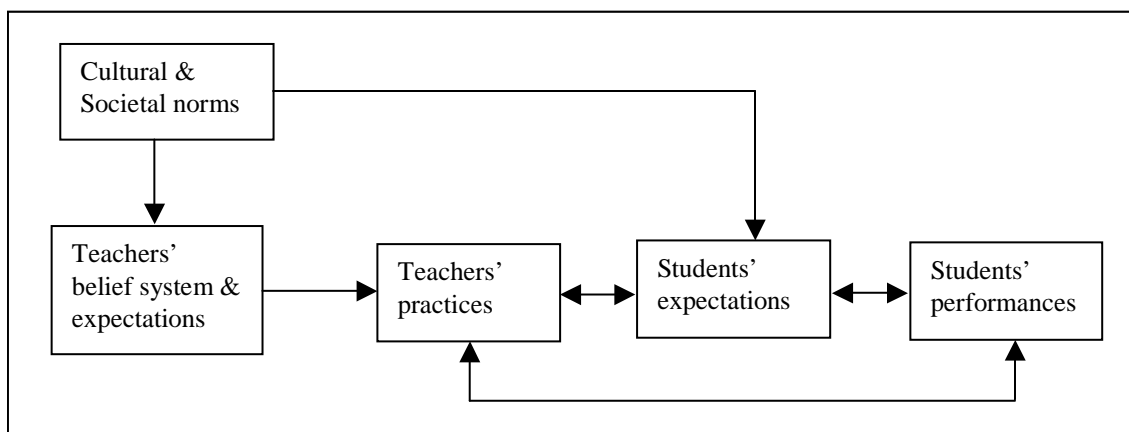
These assumptions and expectations that are held by many teachers affect students' achievement. According to researchers (Edge et al., 1997; Sadker & Sadker, 1982), teachers' expectations about students' gender are harmful to both male and female students by limiting their abilities to reach their fullest potential. The expectations about girls could negatively affect girls' motivation, academic self-esteem and performance, especially in math and science classes. For example, in studies concerning math education, it has been reported that teachers' perceptions about students' abilities influence students' achievement and competency (Secada, Fennema & Adajian, 1995). Conforming to societal assumptions about gender also affects the way in which boys identify themselves because these assumptions convey to boys that they are superior to girls in schools and later in society, thus, perpetuating male's domination in society. Sadker and Sadker (1994) state, "as the [societal] script is internalized, boys learn to look down on girls and to distance themselves from any activity considered feminine" (p. 220).

In addition, these gender stereotypes may create a special disadvantage for low ability males, in that it may be more damaging for males than for females to be incompetent, because society expects males to be competent (Wooldridge & Richman,

1985). Therefore, males may experience pressure from parents, teachers and peers, trying to prove their ability to conform to the cultural stereotypes about the “ideal man,” who is expected to be competitive, become the breadwinner in a capitalistic society and have a dependent family. But, Sadker and Sadker (1994) argue that many boys who are trying to conform to stereotypical roles and striving for success are suffering from academic and psychological problems.

In summary, teachers tend to hold different and unequal expectations about male and female students’ gender roles. These stereotyped expectations are influenced by teachers’ beliefs and value system that is shaped by their culture norms (see figure 1). These expectations and beliefs inform teachers’ practices and interaction with students, as well as influence students’ expectations and performances as I will elaborate on more in the next section.

Figure1: A Diagram of the Relationship Between Beliefs and Behaviors of Teachers and Students



B. Classroom Interaction

This section demonstrates the implicit messages about gender roles through teachers' different patterns of interactions with male and female students in the classroom. Researchers (Elkin & Handel, 1991; Renzetti & Curran, 2003; Sadker & Sadker, 1991) point out that when teachers are asked about the way they treat their students, they respond that they treat all their students fairly, regardless of their sex. On the contrary, research indicates that in practice teachers typically interact differently and often inequitably with their male and female students. Streitmatter (1994) argues that most teachers do not intentionally nor consciously differentiate learning opportunities for their students by gender. Nonetheless, research on teacher interaction patterns shows that teachers tend to interact with male and female students differently.

In the past three decades, researchers have documented that boys receive a greater amount of teachers' attention in the classroom than girls. Girls were often ignored unless they happened to be physically close to the teacher (Serbin et al., 1973). Twenty years later researchers were still reporting imbalances in teachers' attention favoring the boys (The AAUW, 1995). According to Eliason and Jenkins (1994), the overt stereotyping relating to gender bias is not as common as it was 20 years ago, but subtler bias persists.

Researchers have found consistent patterns of sex bias in their studies: Male students received more attention from teachers, and were given more time to talk in classrooms than female students. Furthermore, male students received more praise, critical feedback and remediation than females. Teachers were found to praise female students more often for good behavior such as being neat, following instructions exactly and raising their hands, while for male students it is likely to be for academic

performance. Research shows that when male students call out answers in the classroom without raising their hands, teachers usually accept their answers, whereas teachers typically correct females who call out answers by telling them that such behavior is inappropriate (Dezolt & Hull, 2001; Grossman & Grossman, 1994; Lips, 1997; Renzetti & Curran, 2003; Sadker & Sadker, 1982, 1985, 1994; Sadker, Sadker & Klein, 1991; Strettmatter, 1994). Several studies have been published documenting sex discrimination in the elementary and secondary classrooms (Bailey, 1993; Thorn, 1989), but on the university level empirical research is inconsistent (Brady & Eisler, 1999).

In observing the interaction patterns between teachers and students in six fifth through ninth classrooms, Altermatt, Javanovic and Perry (1998) documented some patterns of inequalities. Boys have been found to have generally more positive interactions with their teachers than do girls, including more opportunities to answer questions, more individual instruction, more encouragement and more positive feedback. According to Renzetti and Curran (2003) boys receive more attention and instructional contact because they are more demanding than the girls.

Correspondingly, Younger, Warrington and Williams (1999) research in England, found patterns of gender biases. The researchers examined teacher-student interactions in eight secondary schools. Through observing classrooms and interviewing teachers and students in these schools, the researchers report that most teachers believe that they give equal attention, but their finding suggests that this is rarely achieved. They found that in most schools, boys dominate certain classroom interactions both verbally and spatially. The boys contributed over 60% of the interactions with teachers. Some teachers were found to frequently engage with boys in an informal, joking manner with the boys.

Although male students receive more positive attention than females, research indicates that male students are more likely than girls to be the recipients of negative and management-oriented contacts, including behavioral criticism and punishment. Teachers are less tolerant of boys' disruptive behaviors; teachers tend to reprimand males more often and differently from females; teachers tend to speak briefly, softly and privately to disruptive girls but publicly and harshly to disruptive boys (Best, 1983; Huffine, Silvern & Brooks, 1979; Jones & Wheatley, 1990; Meeca, 1987; Younger et al., 1999). Boys are punished for being unruly and for behavioral problems, while girls are punished for academic failures and the quality of their work (Bourdreau, 1986; Lips, 1997). In describing the differences in how males and females behave, Marshall (as cited in Gossman & Grossman, 1994) argues that boys misbehave more visibly than girls and in a more disruptive way; therefore, a lot of boys are frequently criticized for their disruptive behaviors.

In a study involving 216 white female teachers in three states, Wooldridge and Richman (1985) found that these teachers recommended severe punishment for male students more than females because girls were perceived to be fragile. The researchers used packets of experimental materials consisting of stories about cheating, fighting, and stealing. In single-sex schools, boys are more likely to receive physical punishment and severe authoritarian disciplinary measures such as shaking, pushing and hitting (Askew & Ross 1988; Beynon, 1989). The subjection of boys to such negative attention would influence their academic performance. Entwisle et al. (1997) argue that these negative conducts with boys translate into lower academic grades, particularly in reading, even when male and female students have the same standardized test scores.

Numerous studies have shown that in science, boys and girls receive different amount of teachers' attention. Girls were found to use science equipments, perform scientific experiments and participate in science activities less often than boys (Jones & Wheatly, 1988; Morse & Handley, 1985; Shepardson & Pizzini, 1992). In a study conducted in two high schools in Western Australia, Torbin and Garnett (1987) observed that 79% of classroom science demonstrations were conducted by boys. The observational data in science classes indicated that male students participated more than females in the public interactions with the teacher and in laboratory activities.

Although there is a lot of agreement in research with regard to teachers interacting more with male students than with female students, there is also some disagreement. Persell, et al. (1999), report that some studies conducted in American, Japanese and Chinese elementary schools found little evidence that teachers communicate differently with boys and girls. In contrast, Best (2001) report that studies in Japan and the United States indicate that teachers in both countries paid more attention to boys, particularly negative one. This paradox in research concerning teachers' behaviors toward male and female students can be related to several factors. Among these factors are the location of the schools where research was conducted, the type of school, i.e. private or public, the duration and methodology of the research and the criteria used by the researcher or researchers to determine biased or unbiased teaching practices.

Merrett and Wheldall's (1992) research in Britain, which involved observing 32 primary and 38 secondary teachers, found virtually no difference in teachers' use of praise and reprimand with elementary boys and girls, though, they observed that both male and female teachers paid more attention to boys in their secondary sample. Boys

received more responses overall (both positive and negative) from teachers. They also found that female teachers used more negative responses to boys' social behavior, whereas male teachers used more positive responses to boys' academic behavior. According to the American Association of University Women Report of the Year (1992), even though there are studies that report no difference in teachers' interaction with male and female students, the majority shows that regardless of the sex of the teacher, male students interact more with their teachers than female students do.

In sum, the majority of the findings about teachers' practices in industrialized countries suggest that teachers treat male and female students differently. Teachers tend to discipline male students more often but also give them more attention in the classroom, whereas they tend to give female students less positive and negative attention. Teachers also tend to have higher expectations for male students than for female students in Math and Science subjects. Teachers' beliefs about gender roles would underlie their differentiated treatment toward male and female students. Teachers' unequal treatment might affect male or female students opportunity to learn and succeed in school. Although a lot of researchers have found consistent patterns of sex bias in teachers' behaviors toward male and female students, there are other researchers who found no difference in the ways in which teachers treated their students.

C. Teachers' Unequal Practices in Developing Countries

Scholars have documented that most research on classroom dynamics and teacher-student interactions derives from the classrooms of industrialized countries. On the contrary, in developing countries, due to the limited financial resources and low

interest of governments, this type of research has been rare (Stromquist, Lee & Brock-Utne, 1998). According to Stromquist (1997), in developing countries there is more research documenting sexist messages that are present in textbooks because the content analysis of textbooks is cheaper, simpler and less obstructive in comparison to classroom observations. Yet, there is some research addressing gender biases in teacher-student interactions. For example, a study conducted in Zomba District in Malawi reveals that both female and male teachers believe that boys are academically superior to girls. Through classroom observations, the teachers paid more attention to boys than girls and sometimes completely ignored the girls (Davidson & Kanyuka, 1992).

In another study, Biraimah's (1982) administered questionnaires to the teachers in a coeducation secondary school in Togo, and recorded teacher-student interaction patterns over a period of several months. The study reveals that teachers had little regard for the ability, character and potential of female students. Teachers most often described their female students in negative terms such as "disruptive behavior" or "lack of interest in school". In contrast, they described male students as "responsible", "hard working" and "scholarly". Through classroom observations, Biraimah reports that teachers' messages emphasized a gender division of labor. She observes that female students did all the sweeping work before class; they were called upon more than their male counterparts to perform in-class maintenance tasks such as cleaning the boards or returning papers. Biraimah also reports that, despite the teachers' low expectations of the female students, the girls themselves had high occupational expectations.

CONCLUSIONS AND IMPLICATIONS

This chapter attempted to comprehensively review the sociological theories and research findings as they relate to gender roles differences, the role of schooling and teachers' role in relation to gender roles. The first part of this chapter looked at the issue of gender roles and gender inequality from multiple theoretical and global perspectives. These perspectives were used to offer an explanation to gender role differences. Functionalists view women's roles as opposite but rather complementary; conflict theorists see men as having an economic privileges, and this provides the basis for gender inequality in a given society.

Influenced by conflict theorists such as Max and Eagel, socialist feminists argue that the inferior position of women is tied to the capitalistic system and the family patriarchal structure. Liberal feminists put more emphasis on the biased social system, the incorrect gender socialization in the family and school and the importance of the state's interference to improve the conditions of women. Unlike liberal feminists, radical feminists view male domination in the family and in social institutions as the main cause for gender inequality. Thus, they advocate that women establish their own institutions separate from men.

Furthermore, in the first section of this chapter, I have attempted to show how gender issues and women's status varies across countries. In some industrial societies such as the United States, Japan and Sweden, women search for equal rights in the work force and carry a double working burden. In less developed societies, women are subjected to social and cultural pressures that would repress their needs, limit their access to education and confine them to the domestic sphere. Underlying gender role differences

and women's position in each country are cultural, social and historical contexts that need to be understood when observing gender roles across societies.

Within this context, I see myself in an agreement to some extent with the functionalists because I believe that men and women depend on each other and perform different roles that are interrelated and necessary for the survival of the society. These roles or social functions need to be done in gender specific way in order for the society to function. Performing different roles should not necessarily imply that one role is more valued than the other; or men are more important than women, because all roles and all individuals are functional for any society. Neither should it mean that men and women should not help each other in performing their specific gender roles. Although I find functionalist assumptions to be useful, I find them to be insufficient in explaining the gender inequality that takes place in different societies. Therefore, I find myself also leaning towards liberal feminists frame of thought, as they are more likely to focus on the biases that are present in the family and education. As a mother and an educator, I find it important to pay attention to the socialization messages that boys and girls encounter as they grow up. As suggested by liberal feminists, the state has to play an essential role in improving the life conditions of women and girls, including educational equality. I believe the state also has to pay more attention to the cultural practices that violate women's rights and jeopardize their freedom and health conditions.

In addition, the last two parts of this chapter highlighted some theoretical arguments and research findings in the United States and other international contexts in relation to the role of schools, particularly the role of teachers in perpetuating societal gender inequalities through their biased practices in the classroom. In analyzing the

functions and biases of educational systems, sociologists and feminists pointed out to the significance of the hidden curriculum. The hidden curriculum in this study refers to the implicit messages conveyed to students through classroom interactions, teachers' expectations, teachers' treatments of male and female students, and the school structure. It is these implicit, unintentional messages about gender role expectations that influence students' opportunities to learn and shape their perceptions about their masculine or feminine identity and future social performances. Hence, not all students are passive recipients of such messages.

To challenge and transform the societal assumptions about gender roles that would affect students' learning and achievement, and to create a classroom free of gender bias, I think teachers need to develop an understanding of gender issues. To generate such understanding, teachers must first be more aware of their own behaviors toward male and female students, and of possible gender biases in their practices. Sadker and Sadker (1985) report that unless teachers are aware of the sexist's problems that exist in their classrooms, it is unlikely that they will change the biased practices. Streitmatter (1994) suggests that personal reflection and teaching in a reflective manner would help raise teachers' awareness and reduce gender bias in teaching. I also think that to raise such awareness, teacher education programs have a responsibility in making prospective teachers more conscious about the hidden messages related to gender, race and social class that may underpin their practices.

Finally, I think that addressing gender issues in college contexts and the exposure of student teachers to research on gender could lead to equitable gender relations in schools, the work place and in the larger society. DeZolt and Hull (2001) report that

teachers who receive gender equity training are more sensitive to gender bias. They are more likely to show gender equitable interaction patterns with their students. According to Tobin and Garnett (1987) teachers must be sensitized to the gender role differences and assisted to develop skills necessary to provide equal engagement opportunities for all students. Thus, teacher education programs need to address issues related to gender role differences that would affect boys' or girls' educational opportunities to learn and achieve.

CHAPTER III: RESEARCH DESIGN AND METHODOLOGY

INTRODUCTION

The main purpose of the study was to examine the beliefs/attitudes of pre-service teachers toward gender roles that underlay different teaching patterns. Gender, age and marital status were considered as moderator variables in order to find out the relationship between these variables (gender, age and marriage status) and the attitudes toward gender roles. In the study, pre-service teachers were expected to fall on a continuum between an egalitarian orientation and a traditional orientation concerning gender roles. An egalitarian orientation or attitude reflects non-biased views about gender roles and perceives males and females to have equal or same social roles. The sameness of social roles would result in social equality between the sexes. On the other hand, traditional orientation or attitude perceives males and females to perform different and traditionally stereotyped social roles, and thus would lead to social inequality between the sexes. Traditional views about gender roles reflect the superiority of males in society, where males are seen as the financial providers and the protectors of the family whose work is related to the public sphere, whereas females are seen mainly as wives and mothers, whose work centers mainly around the domestic sphere.

In this study, survey research was utilized to examine pre-service teachers' beliefs regarding gender roles and teachers' differentiated practices in the classroom. Survey

research or quantitative descriptive studies involve collecting numerical data mainly through self-administered questionnaires in order to answer questions about the topic of study (Gay & Airasian 2000). This type of study is appropriate and most often used to identify the characteristics, behaviors, attitudes, concerns, beliefs or opinions of a particular population (Salant & Dillman, 1994; Weisberg et al., 1996).

The study was conducted to address the following research questions:

1. What do pre-service teachers believe about: (a) marital roles, (b) parental roles, (c) employment roles and (d) education roles as they relate to gender?
2. What is the relationship between key demographic characteristics of pre-service teachers (sex, age and marital status) and their beliefs about gender roles?
3. What are the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning?
4. What are the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles?
5. Assuming that some types of gender stereotypes are unacceptable in the classroom, what are the practices that pre-service teachers perceive will reduce those types of gender stereotypes in the classroom?

What follows in this chapter presents the procedures of the study: (1) population and sampling, (2) research instrument, (3) pilot testing, (4) data collection, (5) reliability, and (6) data analysis and expectations

POPULATION AND SAMPLING

The sample for this study consisted of pre-service teachers enrolled in Elementary Education and Early Childhood Education programs at the University of Pittsburgh. The School of Education offers two programs at the post-baccalaureate level that lead to certification in elementary education: Professional Year (PY) Program and Master of Arts in Teaching (MAT) Program. According to the Office of Student Services at the University of Pittsburgh, the total number of students enrolled in the elementary program for Fall of 2004 was 117 students distributed as: 59 students in the PY Program and 58 students in the MAT Program. The School of Education also offers a Professional Year (PY) Program in Early Childhood Education. The total number of students enrolled in this program was 8 students.

Initially, the researcher planned on a target population of all 125 students who are trying to be certified to teach in early childhood education and elementary education, and who were registered in classes during the Fall of 2004. However, when conducting the study, the researcher received 117 responses due to cases of absentees in some of the classrooms that were visited by the researcher.

Pre-service teachers enrolled in these two programs (early childhood education and elementary education) were selected because:

- 1) Research suggests that early years are the most important periods of the development of gender roles and gender identity (AAUW, 1995; Liebert et al., 1986; Parker-Price & Claxton, 1996). Thus, early childhood and elementary teachers would have the most significant influence on the development of young students' ideas and opinions about gender roles.

- 2) The target population varied to some degree in relation to age, sex and marital status, as suggested by the coordinator of the elementary education program. The research examined the effect of these variables on the participant's beliefs about gender roles.
- 3) Elementary education program has the largest number of students compared to other teacher education programs at the University of Pittsburgh.

In addition, the researcher has access to pre-service teachers in the elementary education program. The researcher contacted the coordinator of the elementary program, Dr. Meryl Lazar, who was very helpful in providing information regarding the program. She provided the researcher with a list of courses for the Fall term of 2004 and the total number of students enrolled in each class to be visited.

There were three groups of students in the PY Elementary Program and three groups of students in the MAT Elementary Program. For each group, there were listed courses that would overlap with other groups. The coordinator recommended choosing one session for each group and provided the contact information for the instructors to be best contacted. As for the Early Childhood Education Program, the researcher contacted the two instructors who teach courses in the program and requested their permission to visit one of the courses they teach during the Fall term of 2004.

In the selected sessions, the researcher introduced herself and the purpose of the study, and distributed the self-administered questionnaires to all students in the classroom to be completed and returned to the researcher during the class period.

RESEARCH INSTRUMENT

To measure the beliefs and attitudes of pre-service teachers toward gender roles that underlay differential teaching patterns and practices, the researcher used a Likert scale questionnaire (see Appendix B). The questionnaire used five response categories ranging from “strongly disagree” to “strongly agree”. The instrument included items stating beliefs and opinions related to gender roles, teachers’ role, students’ characteristics, and educational situations pertaining to gender role differences. The researcher developed the instrument after reviewing the literature and related research on the same issues. The survey items were derived from research that had examined gender role differences and perspectives of teachers and pre-service teachers about gender roles. In developing Part A of the questionnaire, items were modified from previous studies that investigated attitudes about gender roles (Alsharie, 1992; Alsalehi 1998; Anderson & Johnson, 2003; Antill et al., 1996; Slavkin, 2000; Tantekin, 2002). To help develop items in Part B and Part C of the questionnaire, the researcher reviewed specific research (Benz et al., 1981; Fennema et al., 1990; Grossman & Grossman, 1994; Jacko et al., 1981; Jones & Wheatley, 1990; Tantekin, 2002; Tatar & Emmanuel, 2001) that dealt with gender issues in education and with teachers’ differentiated treatments toward male and female students in the classroom.

Part A of the questionnaire included items that addressed gender roles in the following categories or subscales:

Marital roles: Culturally shared expectations and beliefs about men and women in their spousal roles.

Parental roles: Culturally shared expectations and beliefs about maternal and parental roles.

Employment role: Culturally shared expectations and beliefs about men and women in their workplace roles.

Education roles: Culturally shared expectations and beliefs about educational opportunities available to men and women.

Part B of the questionnaire, included items that addressed teachers' beliefs or orientation on the role of teachers in relation to gender roles that affect students' learning.

The items were distributed into the four following categories or subscales:

Pro-egalitarian: Teachers promoting non-traditional gender roles through classroom interactions.

Anti- egalitarian: Teachers promoting traditional gender roles through classroom interactions.

Pro-teachers' involvement: Teachers supporting the view that teachers should play a role in shaping students' views about gender roles.

Anti-teachers' involvement: Teachers supporting the view that students are the ones who should decide on the preferable gender roles.

Part C of the questionnaire, included items that addressed teachers' beliefs about specific educational practices and students' characteristics in relation to gender roles.

Items were concentrated in the three following categories or subscales:

Math and science: Teachers' beliefs about students' characteristics and educational practices in relation the subjects: math and science.

Classroom attention: Teachers' beliefs about students' characteristics and educational practices in relation to classroom attention.

Discipline: Teachers' beliefs about students' characteristics and educational practices in relation to disciplinary situations.

PILOT TESTING

The researcher conducted the pilot testing in two classes offered through the Department of Instruction and Learning during the Summer of 2004. The classes were: Introduction To Mathematics Education, and Teaching Grammar and Usage. The first class had eight (8) pre-service teachers who specialized in secondary math education, and the second class had twenty-seven (27) pre-service teachers who specialized in secondary language and communication education. The total number of participants in the pilot test was thirty-five (35) pre-service teachers. Among the participants in the pilot study, 12 (34%) were males and 23 (66%) were females. The majority of the participants, 83% were between 21-30 years old, 71% were single, 97% were Caucasian, and 71% of them had previous teaching experience.

The participants completed and returned the surveys (see Appendix C) to the researcher during the classroom periods. The participants took approximately 10-15 minutes to complete the questionnaire. The reliabilities of the scales within Part A, Part B and Part C were tested using data from the pilot test (see Table 1). Cronbach's Alpha was computed and it was (0.5) or above for all the scales, except for the Scale Attention (Alpha = 0.43) and the Scale Discipline (Alpha = 0.21). The coefficient alpha for the

Scale Attention was calculated for a small number of items (4 items), and this might have lowered the reliability coefficients for this scale. For the Scale Discipline, the low reliability might be related to the way in which two of the items (item number 53 and 63) on this scale were worded. Item number 53 was stated as follows: “It is acceptable for boys to be punished physically for misbehaving”. Item 63 was worded as: “Girls should not be punished physically”. Both items referred to physical punishment in schools, a practice that is no longer acceptable by society, and probably is prohibited by law. In analyzing the responses to these two items, all participants (100%) disagreed with the first statements, while (86%) of the participants agreed with the second statement. Some participants explained on the questionnaires that they believe that no one should be punished physically. Thus, the researcher replaced these two items on the questionnaire, and this may result in a higher reliability for this scale.

Table 1: Reliability (Cronbach’s Alpha) for the Subscales Using Data from the Pilot Study

Scale	Questionnaire Parts	Cronbach’s Alph
Marital roles	A	0.76
Parental roles	A	0.53
Employment roles	A	0.68
Education roles	A	0.70
Orientation	B	0.83
Math & Science	C	0.75
Attention	C	0.43
Discipline	C	0.21

In addition, the researcher asked the participants for their comments and thoughts about the questionnaire items. The researcher also asked them if they had experienced any problem or difficulty when answering the questionnaire.

In general, the participants had the following comments:

1. Most participants commented on the wording of the Likert items stated on Part A and Part C of the questionnaire. They thought that it would be more appropriate to use the verbs “should, may, can or could” in the items rather than using present verbs such as “is and are”. The reason for their concern about the wording is that the first set of verbs would imply participants’ opinions about gender roles as opposed to their beliefs about the way society stereotypically perceives gender roles.
2. Some participants questioned asking about the father’s occupation and not asking about the mother’s occupation as well. Besides, in analyzing the responses on this specific question, the researcher realized that there was a contradiction between father’s occupation, and the income range of the family, which was asked in a separate question: the income range in some cases seemed to be higher than what would be expected for the stated occupation.
3. There was some controversy about item number 49 on the questionnaire. The item was worded as: “Male students are expected to do better in math than female students”. Many of the participants thought that it was unclear because of the word “expected”, and thus they recommended rewording the question.
4. Many participants commented on the open-ended questions. For question number 77: “Do you think teachers should teach or act differently in the classroom to

challenge societal gender stereotypes that result in differentiated opportunities to learn?” they recommended leaving out “that result in differentiated opportunities to learn” from the question. They thought that having this part in the question was confusing. They also mentioned that having the words “teachers and classroom” in the question would be enough since these words already imply stereotypes that may exist in education. They also thought that the word “challenge” was not very clear.

5. Other participants pointed out that question number 77 is the opposite of question number 79: “Do you think teachers should conform or foster societal gender stereotypes in the classroom?” They thought that it was confusing for them to have these two opposite questions on the same questionnaire. I have to mention that in analyzing the answers for questions 77 & 79, most participants had opposite answers for these two questions. Those who answered, “no” on one question were more likely to answer, “yes” on the opposite question. Some even wrote “see previous question, had similar answers or left the space blank” when indicating reasons for their answers on these two questions.
6. Some of the participants recommended adding a clarification sentence in the survey instructions, indicating that participants should provide answers to the items based on their own personal views and not on how they perceive society is currently functioning in relation to gender roles.

In addition to these comments from the participants, in conducting the research in the first class, the researcher noticed that the answers for question number 78: “If you answered “yes” to question (77), please suggest ways in which teachers could teach or act

differently so that gender stereotypes do not affect male or female students to learn and achieve in the classroom?” were not specific. That is to say that most participants wrote general statements rather than mentioning specific practices or behaviors. Therefore, before administering the survey to the second group, the researcher added the word “specific” before the word “ways”, hoping that this would make the answers more specific. In analyzing the data from the second group of participants, the researcher noticed that adding this word made the responses to this question more specific.

Based on the previously mentioned feedback received from the participants, the researcher modified the research instrument (see Appendix B) as follows:

1. The researcher reworded Likert stated items on Part A and Part C. The researcher used the verbs “should, may, can or could” in the items where it was appropriate.
2. Based on the controversy concerning question number 49, the researcher modified it into: “Male students generally do better in math than female students.”
3. On Part A of the questionnaire, the researcher modified item number 5: “Taking out garbage should be the primary responsibility of a husband” into “Taking out garbage is primarily the husband’s responsibility”. The researcher also modified item number 11: “Making financial decisions in the family should be the responsibility of the husband” into “Making financial decisions in the family is primarily the husband’s responsibility”. The reason for these changes is that taking out the garbage and making financial decisions should be part of the husband’s responsibilities as opposed to his primary or main responsibilities.
4. For item number 35: “Teachers should not use students’ gender roles as a criterion for making educational decisions about them”, the researcher took out

the word “roles” as was recommended by some participants. They thought that there was no need to have this word in the question and the researcher agreed as well.

5. The researcher specified item number 39: “Teachers should accept females’ stereotypical behavior” as recommended by some of the participants so that the item becomes equivalent to item number 38: “Teachers should accept males’ stereotypical behavior such as being active and aggressive”. Item number 39 was changed into “Teachers should accept females’ stereotypical behavior such as being quiet and shy”.
6. The researcher took out the question about father’s occupation, and instead added two items about father’s and mother’s education. The researcher thought that asking about parents’ education along with the family income would better indicate the social class of the participants.
7. The researcher modified the open-ended question based on the feedback received from the participants. The question “Do you think teachers should teach or act differently in the classroom to challenge societal gender stereotypes that result in differentiated opportunities to learn?” was changed to “Do you think teachers should teach or act intentionally in the classroom to reduce societal gender stereotypes that result in differentiated opportunities to learn?”. The question “If you answered “yes” to question (77), please suggest specific ways in which teachers could teach or act differently so that gender stereotypes do not affect male or female students to learn and achieve in the classroom?” was changed to “If you answered “yes” to question (78), please suggest specific behaviors, ways

or practices that teachers could implement so that gender stereotypes do not affect male or female students' learning in the classroom?"

8. After conducting the pilot test, the researcher deleted the last two open-ended questions: "Do you think teachers should conform or foster societal gender stereotypes in the classroom?" and "If you answered "yes" to question (79), please suggest ways in which teachers could support societal gender stereotypes in the classroom?".

DATA COLLECTION

The researcher first obtained permission from the University of Pittsburgh Institutional Review Board (IRB) to conduct the research involving human subjects. The researcher shared the research instrument with the Instruction and Learning Department Chairman Dr. George Zimmereman and Associate Department Chairman Dr. Steve Lyon as recommended by the coordinator of the Elementary Education Program. The researcher then contacted the instructors who teach courses during the Fall term of 2004 and who were recommended by the coordinator of the Elementary Program. The researcher also contacted the two instructors teaching courses in the Early Childhood Program.

The contact initially began during the Summer term of 2004 via e-mail to check with the instructors if they were open to the idea of distributing the surveys during the classroom period. After further contact with those instructors who agreed to participate in

the study, the researcher provided the instructors with a copy of the survey and arranged with them to visit the classroom during one of the classroom periods (see Table 2).

Table 2: Schedule of Classroom Visits and Data Collection, Including Class Sessions and Instructors Contacted.

Day/Date	Course Number	Names of Instructors	Time of Class	Program
Tuesday 7 th September 04	I&L 2475	Smith, Margret	4:30-7:10	Elementary MAT
Wednesday 8 th September 04	I&L 2206	Morris, Gregory	9-11:40	Elementary PY
	I&L 1700	Cleary, Sherry	1-2:40	Early Childhood
	I&L 2475	Mossgrove, Jennifer	4:30-7:10	Elementary MAT
Thursday 9 th September 04	I&L 2475	Mossgrove, Jennifer	4:30-7:10	Elementary MAT
Monday 13 th September 04	I&L 2206	Morris, Gregory	10:30-1:10	Elementary PY
	I&L 2905	Cleary, Sherry Kaczmarek, Louise	4:30-9:00	Early Childhood
Monday 20 th September 04	I&L 2206	Hefflin, Bena Ruth	10:30-1:10	Elementary PY

In the classroom, the researcher proceeded with the following steps:

1. The researcher briefly introduced herself to the participants and explained to them the purpose of the study.
2. The researcher distributed the questionnaire, including a cover letter, explaining the purpose of the study and the confidentiality of the responses to all the students in a given classroom (see Appendix A & B).
3. The researcher collected the completed questionnaires during the class period and thanked the participants and the instructor for their cooperation.

During the conduct of the study, in each one of the six classes that were part of the elementary program, at least there was one student who was absent and therefore were not part of the study. In two of these classes, two students walked in late and thus did not participate in the study. Originally, the target population was 125 participants; however, these few cases reduced the number of participants to 117.

RELIABILITY

To determine the reliability of the subscales within Part A, Part B and Part C of the questionnaire, Cronbach's Alpha was computed using the data from the actual study (see Table3). Cronbach's Alpha was (0.6) or above for all the Likert-type scales and subscales. For example, on the subscale marital roles, (Alpha = 0.67), on the subscale employment roles, (Alpha = 0.80) and on the subscale parental roles, (Alpha = 0.73).

Table 3: Reliability (Cronbach's Alpha) for the Scales and Subscales on the Questionnaire Using Data from the Actual Study

Scale	Questionnaire Parts	Cronbach's Alph
Marital roles	A	0.67
Parental roles	A	0.73
Employment roles	A	0.80
Education roles	A	0.65
Orientation	B	0.72
Educational Practices	C	0.85

DATA ANALYSIS AND EXPECTATIONS

Data were mainly analyzed using the (SPSS) statistical package. Descriptive statistics such as frequency distribution, means and standard deviations were used to describe the independent and dependent variables (see Table 7). Descriptive statistics “is a method for presenting quantitative descriptions in a manageable form” (Babbie, 1989, p. 437).

Likert items on the questionnaire were worded either positively or negatively. Positively stated items would be in agreement with egalitarian attitudes or beliefs about gender roles, whereas negatively stated items would be in agreement with traditional attitudes or beliefs about gender roles. For positively stated items, “strongly agree” received 5 points, “agree” 4 points, “undecided” 3 points, “disagree” 2 points, and “strongly disagree” 1 point. For negatively stated Likert items on the questionnaire, “strongly disagree” received 5 points, “disagree” 4 points, “undecided” 3 points, “agree” 2 points and “strongly agree” 1 point.

In measuring the dependent variable “beliefs about gender roles”, the 33 items on Part A of the questionnaire were distributed in the four subscales: marital roles, parental roles, employment roles and education roles. Items were worded in agreement with an egalitarian or traditional orientation about gender roles (see Table 4). t-tests (for demographic variables with two categories) or ANOVA (for demographic variables with three or more categories) was used to relate demographics to subscale scores, i.e., marital roles, parental roles, employment roles and education roles.

Table 4: Distribution of Items of Part A

Subscale	Item Numbers Expressing Egalitarian Orientation (+)	Item Numbers Expressing Traditional Orientation (-)
Marital roles	1, 26	5, 6, 11, 16, 20, 21
Parental roles	7, 12	2, 17, 22, 27, 30
Employment roles	10, 13, 23, 29	3, 8, 18, 28, 32
Education roles	9, 14, 15, 31	4, 19, 24, 25, 33

Items on Part B were distributed into four categories: pro-egalitarian, anti-egalitarian, pro-teachers’ involvement and anti-teachers’ involvement in relation to gender roles (see Table 5). Items on Part C were concentrated in three categories: math and science, discipline and attention (see Table 6). Most of the items on Part C of the questionnaire were stated in a negative way reflecting the traditional orientation about gender roles, except items number 60, 61, 66 and 68.

Table 5: Distribution of Items of Part B

Subscale	Item Numbers
Pro-egalitarian orientation	34, 35, 37, 47
Anti- egalitarian orientation	38, 39, 41, 42, 43, 44, 45, 46, 48
Pro-involvement	40
Anti-involvement	36

Table 6: Distribution of Items of Part C

Subscale	Item Numbers
Math and Science	49, 51, 55, 56, 58, 59, 61, 64, 66
Classroom attention	54, 62, 65, 68
Discipline	50, 52, 53, 57, 60, 63, 67

For Part A summary scores were computed for the four subscales: Marital roles, Parental roles, Employment roles, Education roles, as well as on the total scale. For Part B, one summary score was computed. For Part C summary scores were computed for the three subscales: Math and Science, Classroom Attention, and Discipline, as well as on the total scale. Summary scores were computed by averaging the scores on items within a subscale. Before averaging, scoring of items that expressed traditional (as opposed to egalitarian views) was reversed so that the score value of 5 was always associated with the strongest pro-egalitarian response.

In addition, the subscales and the total scale in Part A were correlated with Part B total scale and Part C subscales and total scale. This allowed the researcher to determine if there was a relationship between the participants' general views about gender roles and their views about teachers' role, students' characteristics, and educational practices as they relate to gender roles.

As the study was conducted, the researcher had the following expectations:

1. Male participants will have more traditional views about gender roles, whereas females will have more egalitarian views. This is expected, because this finding has been reported in previous research (Bennett & Bennett, 1994; Duffy et al., 2002; Jacko et al., 1981; Merrett & Wheldall, 1992). It would be interesting to find that male participants hold egalitarian views about gender roles since they entered the teaching profession, which is a female dominant field. It would also be possible to find that female participants are the ones who hold traditional views about gender roles or support gender bias in the classroom (Shepardson & Pizzin, 1992) since they entered a traditionally female profession.
2. There will be a significant difference in the participants' views about gender roles with respect to their age. Previous research (Alsalehi, 1998; Wooldridge & Richman, 1985) indicates that age is a factor that affects individual's views about gender roles.
3. There will be a difference in the perspectives of participants about teachers' behaviors and educational practices toward male and female students. This is expected because the participants' beliefs about gender roles are expected to contribute to their beliefs about students' characteristics and educational practices.

This means that those participants who hold traditional orientation about gender roles are more likely to support different educational practices toward male and female students in the classroom. On the other hand, those who have a more egalitarian orientation about gender roles are expected to oppose different or unequal educational patterns in the classroom.

Table 7: A Summary of Research Questions and Research Analyses

Research Questions	Variables	Items on the Instrument	Analysis
1. What do pre-service teachers believe about: (a) marital roles,(b) parental roles, (c) employment roles and (d) education roles as they relate to gender?	Marital roles; parental roles; employment roles and education roles.	Part A on the questionnaire. (Items # 1-33).	Descriptive statistics both on items and on subscales (frequency distribution, means, standard deviations)
2. What is the relationship between key demographic characteristics of pre-service teachers (sex, age and marital status) and their beliefs about gender roles?	Sex; age; marital status and beliefs about gender roles.	Part A on the questionnaire. (Items # 1-33) & items # 69, # 70, item # 71.	t-test (compare the means of two groups), ANOVA (if three or more categories) to relate to gender roles.
3. What are the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning?	Role of teachers.	Part B on the questionnaire. (Items # 34-48).	Descriptive statistics for each item, possibly for total scores (frequency distribution, means, standard deviations)
4. What are the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles?	Educational practices in the classroom (Math & science, discipline, attention)	Part C on the questionnaire. (Items # 49-68).	Descriptive statistics by items, possibly for total scores (frequency distribution, means, standard deviations)
5. Assuming that some types of gender stereotypes are unacceptable in the classroom, what are the practices that pre-service teachers perceive will reduce those types of gender stereotypes in the classroom?	Practices eliminating gender stereotypes.	(Items 78-79). (Open ended).	Identify common themes.

CHAPTER IV: RESEARCH FINDINGS

INTRODUCTION

The main purpose of the study was to examine the beliefs of pre-service teachers about gender role differences and their related role and behaviors. A self-administered questionnaire (Appendix B) was used to collect the data needed to complete the study. The data was collected from pre-service teachers who were enrolled either in elementary or early childhood education program at the University of Pittsburgh during the Fall term of 2004. This chapter presents the findings of the study in two sections: first: characteristics of the participants and second: discussion of the results in relation to the research questions.

CHARACTERISTICS OF THE PARTICIPANTS

The questionnaire was distributed to all the pre-service teachers who were enrolled in one of the eight classes the researcher had visited in the period of Fall 2004. One hundred seventeen (117) participants completed and returned the questionnaire to the researcher during a given classroom period. The participants were distributed among three educational programs: (PY) Elementary Program, (MAT) Elementary Program and Early Childhood Program. Of the 117 participants, 54 (46.2%) were (PY) students, 55

(47%) were (MAT) students and 8 (6.8%) were early childhood education students. The majority of the participants were part of the elementary program since there are more students enrolled in this program.

In respect to other characteristics, the participants varied to some extent on other variables such as sex, age, race, marital status, father's education, mother's education, income range of family they grew up in, and in their teaching experience. The characteristics of the participants in relation to these variables are presented below.

A. Sex of the Participants

The findings presented in Table 8 show that the majority of the participants were females. On the 117 participants, 19 (16.2%) are males, while 98 (83.8%) are females.

Table 8: Distribution of Participants by Sex

Sex	Frequency	Percent
Male	19	16.2%
Female	98	83.8%
Total	117	100.0%

B. Ages of the Participants

The majority of the participants were relatively young. Their ages ranged between 21-30 years old. Table 9 shows the distribution of participants' ages as follows: Of the 117 participants, 4 (3.4%) were 20 years old or younger; 93 (79.5%) were 21-30 years

old; 9 (7.7%) were 31-40 years old; 7 (6.0%) were 41-50 years old and 4 (3.4%) were 51 years old or older.

Table 9: Distribution of Participants by Age

Age	Frequency	Percent
20 years old or younger	4	3.4%
21-30 years old	93	79.5%
31-40 years old	9	7.7%
41-50 years old	7	6.0%
51 years old or older.	4	3.4%
Total	117	100.0%

C. Race of the Participants

The findings presented in Table 10 show that the majority of the participants were Caucasians. Of the 117 participants, 107 (91%) were Caucasian; 9 (7.7%) were African American and 1 (.9%) was Asian American.

Table 10: Distribution of Participants by Race

Race	Frequency	Percent
Caucasian	107	91%
African American	9	7.7%
Asian American	1	.9%
Total	117	100.0%

D. Marital Status of the Participants

The findings presented in Table 11 show that the majority of the participants were never married (single). Of the 117 participants, 90 (76%) were never married; 21 (17.9%) married; 3 (2.6%) divorced; 2 (1.7%) separated and 1 (.9%) was widowed.

Table 11: Distribution of Participants by Marital Status

Marital Status	Frequency	Percent
Never married (single)	90	76%
Married	21	17.9%
Divorced	3	2.6%
Separated	2	1.7%
Widowed	1	.9%
Total	117	100.0%

E. Father's Education

The findings presented in Table 12 show that of the total respondents (113), 3 (2.7%) indicated that their fathers hold less than a high school degree; 29 (25.7%) had a high school diploma; 26 (23%) had some college or technical education; 25 (22.1%) had a bachelor's degree and 30 (26.5%) had post graduate degree.

Table 12: Distribution of the Respondents by Their Father's Level of Education

Father's Education	Frequency	Percent
Less than high school	3	2.7%
High school	29	25.7%
Some college	26	23%
Bachelor's degree	25	22.1%
Post graduate	30	26.5 %
Total	113	100.0%

F. Mother's Education

The findings presented in Table 13 show that of the total respondents (114), 2 (1.8%) indicated that their mothers hold less than a high school degree; 38 (33.3%) had a high school diploma; 32 (28.1%) had some college or technical education; 28 (24.6%) had a bachelor's degree and 14 (12.3%) had post graduate degree.

Table 13: Distribution of the Respondents by Their Mother's Level of Education

Mother's Education	Frequency	Percent
Less than high school	2	1.8%
High school	38	33.3%
Some college	32	28.1%
Bachelor's degree	28	24.6%
Post graduate	14	12.3 %
Total	114	100.0%

G. Income Range of Family

The findings presented in Table 14 show of the total respondents (112), 9 (8.0%) indicated that the family which they grew up in had an income range less than \$25,000; 19 (17.0%) had an income range of \$25,000-40,000; 34 (30.4%) had an income range of \$41,000-60,000 and 50 (44.6%) had an income over \$60,000.

Table 14: Distribution of the Respondents by the Income Range of the Family

Income Range	Frequency	Percent
Less than \$25,000	9	8.0%
\$25,000-40,000	19	17.0%
\$41,000-60,000	34	30.4%
Over \$60,000	50	44.6%
Total	112	100.0%

H. Previous Teaching Experiences of Participants

Table 15 shows that the majority of the participants had previous teaching experience. Of the (117) participants, 82 (70.1%) had some form of a previous formal or informal teaching experience, while 35 (29.9%) did not have any teaching experience.

Among those participants who had previous experience, there was a range of teaching experiences: volunteering in classrooms; teaching at private schools; being a substitute or aid teacher; working with young children at daycare centers; teaching in after-school programs; participating in summer camps; teaching at religious and Sunday schools; having internships; working with special needs children; tutoring and teen

mentoring; coaching and cheerleading; and working at the Carnegie Museum, Carnegie Public Library, Carnegie Science Center and Pittsburgh Zoo.

Table 15: Distribution of the Respondents by Previous Teaching Experience

Previous Teaching Experience	Frequency	Percent
Yes	82	70.1%
No	35	29.9%
Total	117	100.0%

RESEARCH QUESTIONS

There were five research questions that were developed to fulfill the purpose of this study. What follows in this section is a presentation of the findings as they relate to each research question.

Research Question # 1: What do pre-service teachers believe about: (a) marital roles, (b) parental roles, (c) employment roles and (d) education roles as they relate to gender?

To determine the beliefs of pre-service teachers about gender roles, descriptive statistics were computed for the four subscales, marital roles, parental roles, employment roles, and education roles. Before computing the scores for the four subscales, scoring of items that expressed traditional views (as opposed to egalitarian) was reversed so that the score value of 5 was always associated with the strongest pro-egalitarian position, while the score value of 1 was always associated with the least egalitarian position.

The findings presented in Table 16 indicate the mean (M) and standard deviation (SD) of the four subscales for the full sample 117 participants. It was found that, the mean score on the subscales were as follows: 4.26 on marital roles, 4.37 on parental role, 4.59 on employment roles and 4.25 on education roles. On average scale of values 1-5, the results show that generally the participants had egalitarian views about gender roles since the mean score on each subscale was closer to the score value of 5.

Table16: Descriptive Statistics of Subscales for Gender Roles (Part A)

Subscale (n=117)	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
Marital Roles	4.26	.52	2.43	5.00
Parental Roles	4.37	.45	3.14	5.00
Employment Roles	4.59	.38	3.22	5.00
Education Roles	4.25	.44	3.11	5.00

In addition to computing descriptive statistics for the four subscales, descriptive statistics were computed for each item on the scale gender roles (Part A of the questionnaire). Detailed frequency distributions on each item are provided in Appendix D.

Results on the 12 items in Part A that were worded positively or stated in an agreement with an egalitarian position on gender roles were analyzed first. Table 17 shows that the mean of scores on all of these items was above the score of 4. For example, the item “cleaning up the dishes should be a shared responsibility between a

husband and a wife” had a mean score of 4.68. Since score of 5 always represents strongly agree and a score of 1 always represents strongly disagree, most participants agreed with the egalitarian stated items.

Results presented in Appendix D show that the majority of the participants either agreed or strongly agreed with most of the items reflecting egalitarian views about gender roles. For example, 31 (26.5%) agreed and 84 (71.8%) strongly agreed, whereas 2 (1.7%) disagreed that cleaning up the dishes should a shared responsibility between a husband and a wife. Similarly, 29 (24.8%) agreed and 84 (71.8%) strongly agreed, whereas 2 (1.7%) disagreed and 2 (1.7%) were undecided that taking care of the children should not be only the mother’s job. Also, 48 (41.0%) agreed and 67 (57.3%) strongly agreed, whereas 1 (.9%) disagreed and 1 (.9%) was undecided that fathers can be as good as mothers in taking care of the children. Interestingly, the egalitarian stated item “males should be encouraged to enter traditionally female jobs such as teaching, nursing and secretary” had the highest number of participants who disagreed 6 (5.2%). It was also the only egalitarian stated item where the highest number of participants who were undecided 11 (9.4%) was reported. On the other hand, in response to the item “females should be encouraged to enter fields such as engineering, medicine or architecture”, no one disagreed and only 4 (3.4%) of the participant were undecided. Surprisingly, the only item where no one was undecided about was “cleaning up the dishes should be a shared responsibility between a husband and a wife”.

Table17: Descriptive Statistics for Egalitarian Stated Items in Gender Roles (Part A)

Item	(n=117)	(M)	(SD)	Minimum	Maximum
1. Cleaning up the dishes should be a shared responsibility between a husband and a wife.		4.68	.61	1	5
2. Taking care of the children should <u>not</u> be only the mother's job.		4.66	.65	1	5
3. Home economic courses are as appropriate for male students as for female students.		4.44	.74	1	5
4. Males should be encouraged to enter traditionally female jobs such as teaching, nursing and secretary.		4.15	.83	1	5
5. Fathers can be as good as mothers in taking care of the children.		4.55	.56	2	5
6. Females can be as successful as males in running their own business.		4.72	.49	3	5
7. Females should be encouraged to enter fields such as engineering, medicine or architecture.		4.61	.56	3	5
8. Professional training should be offered equally for males and females.		4.79	.43	3	5
9. Males and females should be offered equal job opportunities.		4.79	.54	1	5
10. A husband and a wife should be equally responsible for taking care of the household. (n=116)		4.67	.57	2	5
11. Males and females should have equal opportunity for work promotions.		4.79	.49	2	5
12. Male and female students should receive equal instructional attention in all subject areas.		4.72	.58	2	5

As to the 21 items in Part A that were worded negatively or in an agreement with the traditional position on gender roles, the findings presented in Table 18 shows that the mean of scores on all of these items was below the score of 3. For example, the item “taking care of the children should be the primary responsibility of mothers” received a mean score of 1.97. Since score of 5 always represents strongly agree and score of 1 always represents strongly disagree, the results indicate that generally the participants disagreed with the traditional stated items.

Table18: Descriptive Statistics for Traditional Stated Items in Gender Roles (Part A)

Item (n=117)	(M)	(SD)	Minimum	Maximum
1. Taking care of the children should be the primary responsibility of mothers.	1.97	.97	1	5
2. Teaching as a career is more appropriate for females than males.	1.53	.60	1	4
3. Taking out garbage should be primarily the husband’s responsibility.	2.14	1.19*	1	5
4. Males more than females should be encouraged to attend higher education.	1.23	.53	1	4
5. A husband should be the head of the family. (n=116)	2.19	1.26*	1	5
6. Males would be more capable of running their own business than females.	1.44	.65	1	4
8. Making financial decisions in the family should be primarily the husband’s responsibility.	1.51	.79	1	5
9. A husband should <u>not</u> get involved in the domestic affairs of the household such as childcare and food preparation.	1.23	.42	1	2

Item (n=117)	(M)	(SD)	Minimum	Maximum
10. It would be more effective for the father to discipline the children rather than the mother.	1.77	.75	1	4
11. It is not appropriate for females to enter traditionally male jobs such as construction, management and engineering.	1.50	.70	1	5
12. Males should be given priority in professional training opportunities.	1.39	.85	1	4
13. The best place for a wife is at home and not at work.	1.37	.65	1	4
14. It can be a problem if the wife earns more money than the husband.	2.44	1.22*	1	5
15. If a child is sick, the mother is the one who should stay at home with the child as opposed to the father.	1.74	.76	1	5
16. Males can be better in Math and Science than females.	2.44	1.15*	1	5
17. Females can be better in Reading than males.	2.51	1.17*	1	5
18. It is more appropriate if the mother rather than the father changes the baby's diaper.	1.50	.70	1	4
19. Males should be paid more than females for the same work.	1.17	.40	1	3
20. When a child awakes at night, the mother should be the one who attends to the child.	1.63	.60	1	4
21. Part time jobs are more appropriate for females than full time jobs.	1.53	.69	1	4

* High SD indicates less agreement on the item.

In looking at the values of the standard deviations (SDs) in Table 18, they were high for some of the traditional stated items. This indicates that there was a disagreement among the participants about certain issues pertaining to gender roles. The detailed findings presented in Appendix D show the frequency distributions of each item. For example, on the item “taking out garbage should be primarily the husband’s responsibility”, the SD was 1.19. In looking at the frequency of responses on this particular item, of the 117 participants, 40 (34.2%) strongly disagreed; 50 (42.7%) disagreed; 4 (3.4%) were undecided; 17 (14.5%) agreed and 6 (5.1%) strongly agreed. On the item “a husband should be the head of the family”, the SD was 1.26. In looking at the frequency distributions, of the 116 respondents, 41 (35.3%) strongly disagreed; 45 (38.8%) disagreed; 6 (5.1%) were undecided; 15 (12.9%) agreed and 9 (7.8%) strongly agreed. On the item “it can be a problem if the wife earns more money than the husband”, the SD was 1.22. Of the 117 participants, 34 (29.1%) strongly disagreed; 34 (29.1%) disagreed; 15 (12.8%) were undecided; 32 (27.4%) agreed and 2 (1.7%) strongly agreed. Interestingly, in respect to this last issue, there were 15 respondents who were undecided.

On the items “males can be better in Math and Science than females” and “females can be better in Reading than males”, the SD’s were: 1.15 and 1.17. Both SD’s were relatively high. The findings provided in Appendix D show that both of these items had similar frequency distributions. On the first item, of the 117 participants, 29 (24.8%) strongly disagreed; 40 (34.2%) disagreed; 17 (14.5%) were undecided; 30 (25.6%) agreed and 1 (.9%) strongly agreed. On the second item, of the 117 participants, 28 (23.9%) strongly disagreed; 37 (31.6%) disagreed; 17 (14.5%) were undecided; 34 (29.1%) agreed

and 1 (.9%) strongly agreed. Both items had the same and relatively high number (17) of undecided respondents. Another item, “males tend to be more competitive than females”, also had a high SD score 1.25. In looking at the frequency distribution of responses on this item, there was a lot of disagreement among the participants (see Appendix D). Of the 117 participants, 21 (17.9%) strongly disagreed; 35 (29.9%) disagreed; 17 (14.5%) were undecided; 36 (30.8%) agreed and 8 (6.8%) strongly agreed. Again, there was a large number of undecided respondents in response to this item.

As the majority of participants agreed with the egalitarian stated items and disagreed with the traditional stated items (see Tables 17 and 18), it can be concluded that in general the participants have a tendency to have egalitarian orientation about gender roles. Although, most participants tended to hold egalitarian attitudes about gender roles, there were some issues related to gender stereotypical roles where the participants did not have a mutual agreement.

Research Question #2: What is the relationship between key demographic characteristics of pre-service teachers (sex, age and marriage status) and their beliefs about gender roles?

Table 19 presents the results of the t-tests that were conducted to compare the beliefs of male and female pre-service teachers about gender roles. Table 19 shows the means (M) and standard deviation (SD) of male and female participants with respect to the four subscales, marital roles, parental roles, employment roles and education roles, and to the overall scale “gender roles”.

Table19: T. tests to Compare the Means of Males' and Females' Beliefs about Gender Roles

Scale	Males (n=19)		Females (n=98)		t	p
	M	SD	M	SD		
Marital Roles	4.06	.62	4.30	.49	-1.86	0.066
Parental Roles	4.13	.43	4.42	.44	-2.65	0.009*
Employment Roles	4.36	.53	4.63	.33	-2.98	0.004*
Education Roles	4.03	.61	4.29	.39	-2.37	0.019*
Gender Roles	4.15	.48	4.42	.33	-3.06	0.003*

*Significant ($p < .05$).

Table 19 shows that there was a slight difference between the beliefs of male and female participants with respect to the subscales marital roles, parental roles, employment roles and education roles, and the total gender roles. The mean scores of the subscales for male and female participants were as follows: 4.06 for males, 4.30 for females on the subscale marital roles; 4.13 for males, 4.42 for females on the subscale parental roles; 4.36 for males and 4.63 for females on the subscale employment roles; 4.03 for males and 4.29 for females on the subscale education roles. As to the total gender roles, the mean score for males was 4.15 whereas it was 4.42 for females. The calculation of the t-test in Table 19 indicates that there were significant differences between male and female participants on the subscales parental roles ($p=0.009$); employment roles ($p=0.004$); education roles ($p=0.019$) and the total scale gender roles ($p=0.003$).

Initially, the researcher expected that male participants would have more traditional views about gender roles, whereas females would have more egalitarian views.

The findings presented in Table 19 show that generally both male and female participants, had an egalitarian position on gender roles, however, females had a stronger position. It can be then concluded that although male and female participants had an egalitarian views about gender roles, females had a stronger egalitarian orientation.

In addition to the t-test, one-way analysis of variance (ANOVA) was performed to determine whether there was a relationship between the participants' age and their views about gender roles. The findings presented in Table 20 show that there was no significant differences among the participants at the various age categories: 20 years old or younger, 21-30 years old, and 31 years old or older. On the subscales marital roles ($p=0.835$), parental roles ($p=0.470$), employment roles ($p=0.410$), education roles ($p=0.67$) and on the scale gender roles ($p=0.51$). All p-values were greater than (0.05); therefore, age did not appear to be related to the participants' orientation or views about gender roles. Although the researcher initially expected that age would be a factor in influencing the participants' views about gender roles, the results indicated that age did not seem to be an influential factor.

Table 20: Results of ANOVA on Beliefs about Gender Roles by Age of the Participants

Subscale	Age Category	n (total =117)	M	SD	F	P
Marital roles	20 or younger	4	4.14	.61	.18	0.835
	21-30	93	4.26	.52		
	31 or older	20	4.31	.53		
Parental roles	20 or younger	4	4.11	.54	.76	0.470
	21-30	93	4.37	.44		
	31 or older	20	4.41	.48		

Subscale	Age Category	n (total =117)	M	SD	F	P
Employment roles	20 or younger	4	4.36	.59	.89	0.410
	21-30	93	4.58	.37		
	31 or older	20	4.64	.36		
Education roles	20 or younger	4	4.08	.52	.39	0.67
	21-30	93	4.24	.45		
	31 or older	20	4.29	.42		
Gender Roles	20 or younger	4	4.19	.46	.66	0.51
	21-30	93	4.38	.37		
	31 or older	20	4.42	.37		

One- way analysis of variance (ANOVA) was also performed to determine if there was a relationship between the participants' marital status and their views about gender roles. The findings presented in Table 21 show that there was no significant difference among the participants who were never married, currently married or those who were previously married. On the subscales marital roles ($p=0.625$), parental roles ($p=0.307$), employment roles ($p=0.404$), education roles ($p=0.292$) and on the scale gender roles ($p=0.393$). All p -values were greater than (0.05); therefore marital status did not appear to be related to the participants' orientation or views about gender roles.

Table 21: Results of ANOVA on Beliefs about Gender Roles by Marital Status of the Participants

Subscale	Category	n (total =117)	M	SD	F	P
Marital roles	Never married	90	4.24	.52	.47	0.625
	Currently married	21	4.36	.47		
	Previously married	6	4.29	.75		

Subscale	Category	n (total =117)	M	SD	F	P
Parental roles	Never married	90	4.34	.44	1.19	0.307
	Currently married	21	4.50	.44		
	Previously married	6	4.29	.50		
Employment roles	Never married	90	4.56	.39	.91	0.404
	Currently married	21	4.63	.35		
	Previously married	6	4.76	.20		
Education roles	Never married	90	4.21	.43	1.25	0.292
	Currently married	21	4.34	.51		
	Previously married	6	4.43	.29		
Gender Roles	Never married	90	4.35	.37	.94	0.393
	Currently married	21	4.46	.36		
	Previously married	6	4.47	.35		

Based on the previously discussed findings, the variable sex appeared to be related to the participants' views about gender roles. Although both male and female participants had an egalitarian orientation toward gender roles, Table 19 shows that females had a stronger egalitarian position on gender roles. Unlike the variable sex, age and marital status did not appear to be related to the beliefs of pre-service teachers about gender roles as shown in Table 20 and Table 21.

Research Question # 3: What are the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning?

To determine the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning, descriptive statistics were computed for each item on the orientation scale (Part B of the questionnaire). Detailed results are presented in Appendix E and Appendix F.

One summary score was calculated for the scale to determine whether pre-teachers had an egalitarian or non-egalitarian position on the role of teachers in respect to societal gender stereotypes. Before computing the score for the scale, scoring of items that expressed traditional views (as opposed to egalitarian) was reversed so that the score value of 5 was always associated with the strongest pro-egalitarian position, while the score value of 1 was always associated with the least egalitarian position.

The findings presented in Table 22 shows that the mean score was 3.92 and the standard deviation was .44 for orientation scale (Part B total scale). Since the score value of 5 always represents the most egalitarian position, and score value of 1 always represents the least egalitarian position, the results indicated that the participants were more than being neutral, and were closer to the egalitarian position. That is to say, that the participants were mainly in favor of the position teachers promoting non-stereotypical gender roles in the classroom.

Table 22: Descriptive Statistics for Orientation (Part B)

Scale (n=117)	Mean (M)	Standard Deviation (SD)	Maximum	Minimum
Total	3.92	.44	4.83	2.92

Findings presented in Table 23 gives a summary of the frequency distributions of the score range on orientation scale (Part B total scale). All but one participant have scores of 3.00 or above. Whereas 53% have scores less than 4.00, less than half 47% have scores of 4.00 or above. The largest proportion of participants 44 (37.6%) had scores that

ranged between 3.50-3.99. Therefore, the majority appeared to be moderately in favor of teachers promoting non-stereotypical gender roles and promoting more egalitarian values in the classroom.

Table 23: Frequency Distributions of Scores for Orientation (Part B)

Scores Range	Frequency	Percent	Cumulative Percent
2.50-2.99	1	.9%	.9%
3.00-3.49	17	14.5%	15.4%
3.50-3.99	44	37.6%	53.0%
4.00-4.49	41	35.0%	88.0%
4.50-4.83	14	12.0%	100.0%
Total	117	100.0%	

Detailed findings presented in Appendix F show that the majority of the participants either strongly disagreed or disagreed with most of the items supporting traditional views about teachers' role in relation to gender roles. For example, of the 117 participants, 63 (53.8%) strongly disagreed and 48 (41.0%) disagreed, that teachers should assign students to single-sex groups during class to protect females from being dominated by males. Similarly, 41 (35.0%) strongly disagreed and 57 (48.7%) disagreed, with the statement that teachers should encourage male and female students to enroll in courses that reflect societal stereotypes.

Although, most participants tended to disagree with the traditionally stated items related to teachers' role, two traditionally stated items, received some agreement from the participants. For example, of the 117 participants, 5 (4.3%) strongly agreed and 37

(31.6%) agreed, whereas 17 (14.5%) strongly disagreed, 42 (35.9%) disagreed and 16 (13.7%) were undecided that it would be appropriate if teachers separated male and female students for activities such as physical education. Similarly, 2 (1.7%) strongly agreed and 28 (23.9%) agreed, whereas 19 (16.2%) strongly disagreed, 41 (35.0%) disagreed and 27 (23.1%) were undecided if teachers should reward male students for behaving in a gender stereotypical manner such as opening the door for female students.

Detailed findings presented in Appendix F also show that the majority of the participants agreed with most of the items supporting egalitarian views about teachers' role in relation to gender roles. For example, of the 117 participants, 46 (39.3%) strongly agreed, 58 (49.6%) agreed, whereas 4 (3.4%) disagreed and 9 (7.7%) were undecided that teacher should encourage male and female students to enroll in some courses that do not reflect societal stereotypes. Although, the majority of participants agreed with the egalitarian stated statements, one particular egalitarian statement in this part had the highest number of participants who disagreed with it. In response to the statement "teachers should discourage students from acting out gender stereotypical roles", 13 (11.1%) strongly disagreed, 35 (29.9%) disagreed whereas 14 (12.0%) strongly agreed, 22 (18.8%) agreed and 33 (28.2%) were undecided. There was relatively a high percentage of undecided participants in response to this statement.

In addition to the aforementioned findings, Table 24 presents the findings of the cross tabulation between two items in the scale B that directly addressed the issues of teachers' involvement in shaping students' beliefs about gender roles. One item advocated teachers' active involvement in shaping their students' views about gender

roles, while the other item advocated students' involvement in forming their own ideas about gender roles as opposed to being influenced by teachers.

Table 24 shows that a large majority 92.3% of the participants either agreed (41.9%) or strongly agreed (50.4%), whereas (1.7%) disagreed and another (1.7%) strongly disagreed that students should be the ones who decide on the preferable gender roles. However, the majority of the participants (73.5%) also agreed (51.3%) or strongly agreed (22.2%), whereas (10.3%) disagreed and (4.3%) strongly disagreed that teachers should be involved in shaping students' perspectives about gender roles.

Table 24: Cross Tabulation Between Two Items in Scale B Concerning Teachers' Involvement

			Teachers should be involved in shaping their students’ perceptions about gender roles.					Total
			SD	D	UD	A	SA	
Students should be the ones who must ultimately decide the kind of gender role they prefer to perform in society.	SD	n	0	0	0	1	1	2
		% of Total	.0%	.0%	.0%	.9%	.9%	1.7%
	D	n	0	0	1	1	0	2
		% of Total	.0%	.0%	.9%	.9%	.0%	1.7%
	UN	n	1	0	2	2	0	5
		% of Total	.9%	.0%	1.7%	1.7%	.0%	4.3%
	A	n	0	8	7	30	4	49
		% of Total	.0%	6.8%	6.0%	25.6%	3.4%	41.9%
	SA	n	4	4	4	26	21	59
		% of Total	3.4%	3.4%	3.4%	22.2%	17.9%	50.4%
		n	5	12	14	60	26	117
		% of Total	4.3%	10.3%	12.0%	51.3%	22.2%	100.0%
Total								

A possible reason explaining why teachers feel that they need to be somehow involved in shaping their students views about gender roles, as suggested by one female participant, is that teachers may think that students are young and thus require guidance in shaping their ideas. Teachers may feel that they have an obligation to help young students make the right decision. One participant stated:

In younger classes (pre-school) students are still shaping their ideas. A teacher can help them make a more informed opinion.

Research Question # 4: What are the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles?

To determine the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles, descriptive statistics were computed for the three subscales, math and science, classroom attention, and discipline, in addition for the overall teachers' practices (Part C total scale). Math and science subscale included statements about students' characteristics and educational practices in relation the subjects: math and science. Classroom attention subscale included statements about students' characteristics and educational practices in relation to classroom attention and interactions. Discipline subscale included statements about students' characteristics and educational practices in relation to misbehaving and disciplinary situations in the classroom.

The findings presented in Table 25 provide the descriptive statistics of the subscales, and of the total scale for the full sample of 117 participants. Before computing the score for the scale and subscales, scoring of items that expressed traditional views (as opposed to egalitarian) was reversed so that the score value of 5 was always associated

with the strongest pro-egalitarian position. The results indicated that, the mean scores were as follows: 3.92 on math and science; 4.06 on classroom attention; 4.04 on discipline and 3.99 on the total scale.

Based on the scale of 1 to 5, score 5 representing the most egalitarian position, results show that overall the participants had views that were somewhat egalitarian in relation to the characteristics of male and female students, and to certain situations or practices in the classroom. On the subscales: Classroom attention, and Discipline, participants tended to have a stronger egalitarian position compared to the subscale Math and science.

Table 25: Descriptive Statistics for Practices (Part C)

Scale (n=117)	Mean (M)	Standard Deviation(SD)	Minimum	Maximum
Math and science	3.92	.58	2.44	5
Classroom attention	4.06	.54	2.75	5
Discipline	4.04	.44	3.00	5
Total scale	3.99	.45	3.10	5

In addition to computing descriptive statistics for the subscales and total scale, descriptive statistics were computed for each item on the practices scale C (Part C of the questionnaire). Detailed frequency distributions on each item are provided in Appendix G. Interestingly, in response to each item except one item, there were at least one or more participants who were undecided. For example, on the item “male students generally need

instructional contact in the classroom more than female students”, of the 117 participants, 32 (27.4%) were undecided, whereas 9 (7.7%) agreed, 57 (48.7%) disagreed and 19 (16.2%) strongly disagreed. On the item “in science classes, female students generally participate as much as male students in laboratory activities and demonstrations”, of the 117 participants, 28 (23.9%) were undecided, whereas 21 (17.9%) strongly agreed, 53 (45.3%) agreed, 14 (12.0%) disagreed and 1 (.9%) strongly disagreed. On the item “in science and math classes, females generally volunteer answers as much as males”, 20 (17.2%) were undecided, whereas 16 (13.7%) strongly agreed, 55 (47.4%) agreed, 22 (18.8%) disagreed and 3 (2.6%) strongly disagreed. These three items had the highest percentage of undecided respondents (see Appendix G).

The one item that no one seemed to be undecided about was stated “it would be acceptable for male students to call out answers when the teacher asks a question as opposed to female students”. Mainly, the 117 participants were in favor of “disagree” as a response. On this particular issue, all of the participants either strongly disagreed 73 (62.4%) or disagreed 44 (37.6%). Surprisingly, it was also the only item where no one chose “agree” as an answer, and one of the items where no one chose “strongly agree” as an answer. It seems that the participants all shared a similar viewpoint in respect to this issue (see Appendix G).

In general, findings presented in Appendix G show that the majority of the participants either disagreed or strongly disagreed with most of the items reflecting the traditional views about gender roles. For example, of the 117 participants, 45 (38.5%) disagreed and 68 (58.1%) strongly disagreed that it would be acceptable for boys more than girls to be punished strictly for misbehaving. Similarly, 63 (53.8%) disagreed and 43

(36.8%) strongly disagreed with the statement that male students more than female students would have the ability to solve sophisticated mathematical problems. Also, 70 (59.8%) disagreed and 23 (19.7%) strongly disagreed, whereas 14 (12.0%) were undecided on the statement that misbehaving girls should be punished gently.

Although, the findings indicated that the participants tended to hold egalitarian views about students' characteristics and educational practices, several traditionally stated items received some acceptance from the participants. For example, of the 117 participants, 30 (25.6%) agreed, whereas 53 (45.3%) disagreed, 18 (15.4%) strongly disagreed and 16 (13.7%) were undecided that male students generally do better in math than female students. Similarly, 26 (22.3%) agreed, whereas 51 (43.6%) disagreed, 26 (22.2%) strongly disagreed and 14 (12.0%) were undecided that misbehaving male students should be reprimanded publicly. On the item "boys generally demand more attention than girls", also 26 (22.2%) agreed, whereas 55 (47.0%) disagreed, 23 (19.7%) strongly disagreed and 13 (11.1%) were undecided. Interestingly, the traditional statement "male students generally misbehave more than female students" had the highest number of participants who accepted this statement compared to other traditional stated statements. Of the 117 participants, 38 (31.6%) agreed whereas 46 (40.2%) disagreed, 16 (13.7%) strongly disagreed and 16 (13.7%) were undecided about this statement.

On the hand, the majority of the participants either agreed or strongly agreed with most of the egalitarian stated items concerning specific educational practices and students' characteristics. On almost all of these items there were only few participants who tended to disagree. For example, of the 117 participants, 40 (34.2%) agreed and 70

(59.8%) strongly agreed that boys and girls who misbehave should be punished in exactly the same way, whereas only 5 (4.3%) disagreed, and 2 (1.7%) were undecided. Similarly, 23 (19.7%) and 90 (76.9%) strongly agreed that girls should have as much opportunity as boys to answer questions in all classrooms, whereas only 3 (2.9%) disagreed and 1 (.9%) was undecided.

To provide more details on the subscales, the tables below provide the means (M) and standard deviation (SD) scores for each item on the three subscales: Math and science, classroom attention, and discipline.

First, on the math and science subscale, all the items were worded negatively except items number 7 and number 10. Table 26 shows that all the items (1,2,3,4,5,6,8 and 9) that were stated in an agreement with the traditional orientation about gender roles had a mean score of 2.50 or below. For example, the item “male students generally do better in math than female students” had a mean score of 2.50. Since score of 5 represents strongly agree and score of 1 represents strongly disagree, all participants tended to disagree with these statements. On the other hand, on items 7 and 10, the mean scores were of values 3.68 and 3.51. These scores indicate that the participants tended mainly to agree with the egalitarian stated items. Therefore, findings in Table 26 indicate that in general the participants had egalitarian views about specific students’ characteristics and educational practices pertaining to math and science classes.

Table 26: Descriptive Statistics on Items in the Math and Science

Item (n=117)	(M)	(SD)	Minimum	Maximum
1. Male students generally do better in math than female students.	2.50	1.04	1	4
2. Boys generally possess more scientific skills than girls.	2.26	.94	1	4
3. Male students can be high achievers in math classes more than female students.	1.96	.88	1	4
4. Male students more than female students would have the ability to solve sophisticated mathematical problems.	1.75	.69	1	4
5. Boys more than girls would enjoy using science equipment and performing experiments in science classes.	1.84	.86	1	5
6. Girls <u>cannot</u> perform as well as boys in advanced math courses such as calculus.	1.42	.56	1	4
7. In science classes, female students generally participate as much as male students in laboratory activities and demonstrations.	3.68	.94	1	5
9. Boys generally dominate the math classroom interactions more than girls.	2.22	.93	1	4
10. In science and math classes, females generally volunteer answers as much as males.	3.51	1.03	1	5

Second, on the classroom attention subscale there were four items, all which were stated negatively or stated in agreement with the traditional gender roles except for one item. Findings presented in Table 27 presents the means and standard deviation scores for

these items. On the items (1,2 and 3) that were stated negatively or in an agreement with the traditional orientation about gender roles, all of the mean scores were 2.38 or below. For example, the item “male students would require more eye contact with the teacher than female students” had a mean score of 1.81. Since score of 5 represents strongly agree and score of 1 represents strongly disagree, most participants tended mainly to disagree with these negatively stated statements. On the other hand, item number 4 that was stated in an agreement with the egalitarian orientation about gender roles had a mean score of 4.71. This high score indicates that the participants tended to strongly agree with the egalitarian stated item. Therefore, findings in Table 27 show that generally the participants had egalitarian views about specific students’ characteristics and educational practices pertaining to classroom attention.

Table 27: Descriptive Statistics on Items in the Classroom Attention

Item (n=117)	(M)	(SD)	Minimum	Maximum
1. Male students would require more eye contact with the teacher than female students.	1.81	.74	1	4
2. Male students generally need instructional contact in the classroom more than female students.	2.27	.82	1	4
3. Boys generally demand more attention than girls.	2.38	1.07	1	5
4. Girls should have as much opportunity as boys to answer questions in all classrooms.	4.71	.62	2	5

Finally, the discipline subscale included six items (1, 2,3,4,6 and 7) that were stated negatively and one stated positively (5). Findings presented in Table 28 show that the negatively stated items or the items that were in agreement with the traditional position about gender roles had a mean score of 2.66 or below. For example, the item “misbehaving female students should be reprimanded privately” had a mean score of 2.21. The one item (5) that was in an agreement with the egalitarian position had a higher score, a mean score of 4.50. Since score of 5 represents strongly agree and score of 1 represents strongly disagree, participants mainly tended to disagree with the traditionally stated statements and highly agree with the egalitarian stated item. Therefore, results indicated that the participants mostly had an egalitarian position on specific disciplinary practices related to male and female students in the classroom.

Table 28: Descriptive Statistics on Items in the Discipline

Item (n=117)	(M)	(SD)	Minimum	Maximum
1. Misbehaving female students should be reprimanded privately.	2.21	.91	1	5
2. It would be acceptable for male students to call out answers when the teacher asks a question as opposed to female students.	1.38	.49	1	2
3. It would be acceptable for boys more than girls to be punished strictly for misbehaving.	1.46	.60	1	4
4. Misbehaving male students should be reprimanded publicly.	2.35	1.07	1	5

Item (n=117)	(M)	(SD)	Minimum	Maximum
5. Boys and girls who misbehave should be punished in exactly the same way.	4.50	.74	2	5
6. Misbehaving girls should be punished gently.	2.13	.91	1	5
7. Male students generally misbehave more than female students.	2.66	1.09	1	5

In addition to reporting the findings for the previously discussed research questions, the scale and subscales on gender roles (Part A) were correlated with orientation scale (Part B total scale) and scale and subscales on practices (Part C). Correlations of the scale and subscales of gender roles (Part A) were correlated with orientation scale (Part B total scale) and scale and subscales of practices (Part C) to determine if there was a relationship between the participants' beliefs of gender roles and their beliefs about teachers' role, and teaching practices and behaviors as they relate to gender roles.

The findings presented in Table 29 show that subscales and total scale of gender roles (Part A) were significantly correlated with the orientation scale (total scale for Part B) and with the subscales and total scale of practices (Part C). Total scale for Part B included items about teachers' role or orientation concerning societal gender roles, while total scale of Part C included items concerning teaching practices and behaviors toward male and female students. The strongest correlation value (.65) was between gender roles and orientation (Part B total). There were also strong correlations between gender roles and practices (Part C total) (.62), and between education roles and practices (Part C total)

(.62). That is to say, that there was a strong relationship between teachers' orientation about gender roles and their orientation about teachers' practices toward male and female students in the classroom.

Since all of the correlations were positive, results shown in Table 29 indicate that generally pre-service teachers who have more egalitarian views about gender roles tended to have more egalitarian views about teachers' behaviors and practices as they relate to gender roles in the classroom. While teachers who hold less egalitarian views about gender roles also tended to have less egalitarian views about classroom behaviors and practices as they relate to gender roles. Since all the correlations were statistically significant, there is a reason to believe that the relationship present is not just due to chance.

Table 29: Correlation of Part A with Part B and Part C

	Part B Total	Math & Science	Classroom Attention	Discipline	Part C Total
Marital roles	.49**	.34**	.23*	.43**	.40**
Parental roles	.58**	.44**	.41**	.52**	.53**
Employment roles	.58**	.47**	.39**	.48**	.53**
Education roles	.53**	.59**	.46**	.48**	.62**
Gender roles	.65**	.55**	.44**	.57**	.62**

*p<.05

**p<.001

Research Question # 5: Assuming that some types of gender stereotypes are unacceptable in the classroom, what are the practices that pre-service teachers perceive will reduce those types of gender stereotypes in the classroom?

Participants didn't agree about teachers acting against or attempting to reduce gender stereotypes that may be present in the classroom and thus may result in different learning opportunities for students. Of the one hundred seventeen (117) respondents, eighty-seven (87) participants agreed that teachers should act against these stereotypes, (23) twenty-three participants did not agree on that, while seven (7) participants did not respond at all.

Participants gave different reasons for their positions on teachers' involvement in reducing the gender stereotypes in the classroom. Most of those who advocated the position that teachers should challenge societal gender stereotypes, perceived boys and girls to be equal and thus, should receive the same learning opportunities and develop their potentials regardless of their gender. In addition, some individuals within this group thought that gender stereotypes have negative impact on students' achievement, performance and career choices and therefore should be eliminated. For example, boys may be discouraged from entering a female profession such as nursing. Females may be discouraged from advancing in subject areas that are predominantly males. As some participants put it:

We should not keep building on existing stereotypes. We could be discouraging a person (male/female) who could be quite successful in their chosen field-stereotypical or not.

Teachers should make an effort to reduce societal gender stereotypes in the classroom. Stereotypes give children a crutch and handicap them in the future. We need to stop that.

I think that they should try to reduce stereotypes because some boys want to be in medicine but are often made fun of when they say they only want to be a nurse.

Teachers should act to reduce the stereotypes because they often lead to lack of interests for certain students in specific subjects (e.g. girls often loose interest in math and science because they think it's not important for them to have knowledge in these areas).

In describing the societal stereotypes as discouraging students to reaching their potentials, one participant pointed out to the physiological differences that exist between males and females. Although she believes in these differences, she thinks that both genders are capable of performing almost all jobs, and therefore should be treated equally. As she puts it:

Having a gender stereotype present in a classroom can be very discouraging to students. Girls and boys can do almost everything equally. I do believe men are physically stronger than women, a woman can be more nurturing than men, but all students can be equally treated and most jobs equally performed.

In contrast to those eighty-seven (87) participants who advocated teachers' active role in reducing gender stereotypes, twenty-three (23) participants indicated that teachers should not act intentionally to reduce gender stereotypes in the classroom. The majority of the latter group stated that teachers should be themselves and shouldn't act in a way that may be unnatural and uncomfortable to them. Others mentioned that students should develop and determine their gender roles naturally without any interference from the teacher.

One female participant mentioned that teachers do not possess the ability to change society's norms. She sees their role limited to providing education to students as

opposed to influencing their views. She considers gender issues to be a family matter that teachers should not be involved in. She puts it as:

We as teachers can't change society, girls are girls, boys are boys. Going against the norms or going for the norms invades the child's personal/family life. You all there to provide education, not change their identity.

Another female participant emphasized the small role teachers have in reducing societal gender roles. She finds other agencies in society to have more influential role on students. She stated that "social gender stereotypes will prevail regardless of what the teacher does – the children have many more influences than the teacher".

To summarize, participants are categorized into those who supported the position that teachers should attempt to reduce gender stereotypes that may be present in the classroom, and those who advocated the position that teachers should not try to reduce these stereotypes. Each group had justified their positions as to why teachers should act or shouldn't act upon these stereotypes. Those participants who agreed that teachers should actively reduce gender stereotypes in the classroom, suggested specific educational practices that can be utilized to help eliminate these stereotypes.

In looking at the responses of those eighty-seven (87) participants who agreed that teachers should act to reduce or eliminate gender stereotypes in the classroom, participants mainly focused on teaching practices and teachers' behaviors as they pertain to two major areas: A. the curriculum and teaching resources, and B. teachers' interactions with the students (see Table 30).

A. Curriculum and Teaching Resources. In focusing first on the curriculum, generally, participants suggested that learning materials such as textbooks should represent and

include the contributions of both males and females. For example, of the eighty-seven (87) participants, eight (8) participants pointed out that when conducting a lesson, teachers need to select and use learning materials that portray males and females fulfilling non-traditional careers or roles. Three (3) participants suggested that during classroom discussions, teachers need to equally represent and discuss the contribution of both males and females in the various professions. Two (2) participants mentioned teachers should teach students about traditional roles as well as non-traditional roles that males and females can fulfill in society. As to the literature, books and reading materials, four (4) participants suggested using books that do not highlight gender stereotypes. However, two (2) participants suggested reading about successful men and women in non-traditional fields such as women in politics or male nurses. These are some examples of some of the suggested practices:

Hang pictures/poster in the room that show females doing “male” careers and males doing “female” careers.

Teachers could bring in videos or photos of people who defy stereotypes, pictures of female construction workers or male ballet dancers, something along those lines to show students that they need to move away from gender stereotypes.

When teachers are showing pictures of doctors, teachers, lawyers, secretary, etc, they should represent both genders

When discussing famous scholars, scientists, etc, use both male and female examples.

When learning about subject, learn about nontraditional people in field, ex. female scientist, male nurses, as well as the more traditional views.

[Use] reading books with non-traditional gender roles. Do not use books or other resources, which show blatant gender stereotyping.

In addition, of the eighty-seven (87) participants, four (4) participants advocated that teachers need to bring into the classroom guest speakers who do not hold stereotypical jobs and thus do not meet the stereotypical societal expectations. These are some responses:

Bring in speakers that do not meet the stereotypes; speakers of anti-stereotypical professions: male nurse, female engineer, female firefighter. Show videos that discuss this topic and other literature resources.

Have adults who fulfill roles of what would stereotypically be the opposite gender's careers come in and talk to class.

B. Teachers' Interactions. In general, participants pointed out issues surrounding teachers' daily interactions with students in the classroom. These issues were related to teachers' attention, feedback, behaviors, and expectations of male and female students' academic roles. Of the eighty-seven (87) participants, thirty-four (34) participants suggested that teachers need to call on males and females equally in all subject areas to answer questions and get them involved in the classroom discussions; thirty (30) participants suggested that teachers need to provide male and female students with the same learning opportunities; seventeen (17) participants mentioned that teachers need to reprimand boys and girls in the same manner for misbehaving; ten (10) participant stated that teachers must assign the same classroom chores to both males and females such as being the classroom secretary or leader, etc.; eight (8) participants mentioned that teachers need to reward and praise male and female students equally for improvement and good behavior; (4) four participants suggested that teachers must avoid calling on a specific gender to answer high level questions that might lead to the assumption that one gender is smarter than/better than the other; four (4) participants suggested that teachers assign stereotypical role to a student from the opposite sex such as choosing girls for

leadership positions and boys for housekeeping chores; and two (2) participant suggested that teachers need to set the same rules for both male and female students.

In relation to teachers' expectations of students' academic roles and achievement in certain subjects such as math, science and reading classes, nine (9) participants suggested that teachers need to treat males and females equally in these subjects and encourage them to do well, however, four (4) participants suggested that teachers need to call on female students more in math classes and have them be leaders in science and math activities. At the same time, thirteen (13) participants suggested, teachers need to let all students know that they can succeed just the same in all areas of study regardless of their gender; (8) eight participants stated that teachers must encourage both sexes to do well and participate in all subject areas; seven (7) participants suggested that teachers need to have the same expectations for all students in respect to their efforts and behaviors; six (6) participants suggested that teachers need to inform students about job opportunities and encourage both genders to pursue all types of studies and careers. Here are some examples of the suggested practices:

Students should be encouraged to learn as much as they can regardless of sex. They should never be made to feel that they can't do everything simply because they are a boy or a girl.

I think students should be encouraged to explore and contribute in all subject areas and fields of study. Students should not feel they are unable to do something because of gender.

As teachers interact with students during the conduct of a lesson or during classroom discussions and activities, fourteen (14) participants suggested that teachers need to be aware of their own behaviors, and conscious not to reinforce their own stereotypes in the classroom; and four (4) participants suggested that teachers should

model non-stereotypical behaviors and act in a non-biased fashion when interacting with male and female students. By doing so, students would eventually learn to model non-stereotypical behaviors. These are some examples:

Be aware and conscious of your own behavior, which may unintentionally support societal gender stereotypes.

Try not to use gender specific colors or play scenarios.

Be aware of [your] own stereotypes and be sure to remove them from instruction time.

I think it is important for teachers to act as the role models they are concerning equality of gender. By acting and showing students that males and females are equal, the students will imitate the teachers' actions (hopefully).

During classroom activities, and whether teachers should encourage gender segregation or mixed gender groups, of the eighty-seven (87) participants, six (6) participants agreed that teachers should have mixed groups of males and females and blend them in activities. On the other hand, one (1) male participant suggested that single sex class might be the way to reduce gender stereotypes that may exist in the classroom, and one female participant stated that she favors all girls' schools and universities.

As male and female students engage in various activities in the classroom, ten (10) participants suggested that teachers have to encourage and allow both males and females to play with non-traditional toys or activities, and perform the opposite gender roles.

As participants put it:

Do not take a boy from "a girl" activity (playing house) and vice versa.

Require boys and girls to play with the kitchen toys and then switch groups so girls can do that plus play with Leggos

Do not focus on activities such as home economics for girls and wood working only for boys.

On the other hand, four (4) participants stated that teachers should provide various learning materials and activities that are traditionally male or female for all students and allow them to make their own choices.

As teachers and students interact and engage together in the classroom, five (5) participants pointed out that teachers need to encourage students to be sensitive toward each other and accept each other's differences. As some respondents put it:

In preschool, teachers can discourage children when they tease a boy playing with dolls or a girl playing with blocks.

Talk to students about difference people may have. (Some girls don't like dolls and love sports, and that is great!).

Further analysis of the data in this section reveals that the majority of the participants understood gender equity as giving every student the same opportunity to learn and succeed in school regardless of gender. However, there were few participants who may have understood gender equity as providing more learning opportunities for those who are being at a disadvantage (i.e. girls having less opportunities in math and science subjects). As discussed earlier in respect to this research question, there were four (4) participants who mentioned that teachers should call on female students more in math classes and have them be leaders in science and math activities as opposed to providing these opportunities for both male and female students on an equal term. One (1) of these four participants also added that teachers should call on male students in reading subjects rather than saying that teachers should provide the same opportunities for both genders in reading classes.

Interestingly, one (1) male participant realized that in his classroom, boys tended to actively participate in the classroom discussion, whereas the girls were quiet. Thus, he finds it important to encourage the girls to engage in the discussions since he sees them to be disadvantaged because of the societal stereotypes. As he puts it:

I notice that boys are responding more to my questions than girls, fulfilling the standard stereotype that girls should be quiet, I would want to somehow encourage girls to break out of their shell and participate in class discussion.

In addition, there were three (3) participants who understood gender equity as responding to the individual needs of students regardless of their gender. They pointed out that when interacting with students, their special and unique needs should be taken into consideration. As one female participant puts it:

On a personal, one to one basis, one individual may require a slightly different response than another, but based on who they are as individuals, not as a gender.

Table 30: The Frequency of Educational Practices as Suggested by the Participants.

Practice	Frequency (number of participants)
Providing male and female students with the same learning opportunities.	30
Disciplining both males and females in the same manner for misbehaving.	17
As a teacher, being aware of your own behaviors and stereotypes.	14
Informing all students that they can succeed just the same in all areas of study.	13

Practice	Frequency (number of participants)
Encouraging and allowing both males and females to play with non-stereotypical toys or activities and perform the opposite gender roles.	10
Assigning the same classroom chores to both males and females.	10
Treating males and females equally in Math and Science subjects.	9
Rewarding and praising male and female students equally for improvement and good behavior.	8
Selecting and using learning materials that portray males and females fulfilling non-traditional careers or roles.	8
Encouraging male and female students to do well and participate in all subject areas.	8
Blending males and females in activities and having them work in mixed groups.	6
Informing students about job opportunities and encouraging both genders to pursue all types of studies and careers.	6
Encouraging students to be sensitive toward each other and respect each others' differences.	5
Modeling non-stereotypical behaviors when interacting with male and female students.	4
Using books that do not include gender stereotypes.	4
Not calling on a specific gender to answer high-level questions.	4
Bringing into the classroom male and female guest speakers who do not hold stereotypical occupations.	4
Calling on female students more in math classes and have them be leaders in science and math activities.	4

Practice	Frequency (number of participants)
Assigning a stereotypical role to a student from the opposite sex.	4
Representing and discussing the contribution of both males and females in the various professions, during the conduct of a lesson.	3
Setting the same classroom rules for both male and female students.	2
Teaching students about traditional roles as well as non-traditional roles that males and females fulfill in society.	2
Reading about successful men and women in non-traditional fields.	2
Having single sex classes or schools would help reduce gender stereotypes.	2

SUMMARY

The researcher started this study with the following expectations:

1. Male participants will have more traditional views about gender roles, whereas females will have more egalitarian views.
2. There will be a significant different in the participants' views about gender roles with respect to their age.
3. There will be a difference in the perspectives of participants about teachers' behaviors and educational practices toward male and female students. The participants' beliefs about gender roles will contribute to their perspectives on students' characteristics and educational practices as they relate to gender roles.

Overall, the findings suggested that pre-service teachers involved in this study were more likely to hold egalitarian views about societal gender roles. The findings presented in Table 16 show the calculated descriptive statistics for the subscales, marital roles, parental roles, employment roles and education roles. The mean scores on each of these subscales were closer to the value of 5, indicating that the participants had egalitarian views about gender roles. Interestingly, for the subscale employment roles, the mean score was the highest (4.59) compared to the scores on the other subscales. Therefore, it can be said, that the participant had a stronger egalitarian position on employment roles and issues related to work opportunities to males and females. The other subscale that they felt strongly about was parental roles. This subscale had a mean score of value (4.37).

As far as the difference between the beliefs of male and female participants concerning gender roles, the initial expectation was that male participants would have more traditional views about gender roles, whereas females will have more egalitarian views. The findings presented in Table 19 showed that both male and female participants, have an egalitarian position on gender roles, however, females had a stronger position. Unlike the variable sex, age and marital status did not appear to be related to the beliefs of pre-service teachers about gender roles as previously presented in Tables 20 and 21.

The participants differed in their responses to the items/statements addressing teachers' role, in relation to gender roles that affect male and female students' achievement. Findings presented in Table 22 showed the calculated mean score (3.92) on the scale teachers' orientation. This scale included items related to teachers supporting either egalitarian or non-egalitarian gender roles in the classroom. The relatively high

mean score indicated that most participants were more than being neutral and were closer to the egalitarian orientation about gender roles. The frequency distribution of the score range for this scale was presented in Table 23. The majority of the participants appeared to be moderately in favor of teachers promoting non-stereotypical gender roles and promoting more egalitarian values in the classroom.

Table 24 presented a correlation between two items on the scale teachers' orientation, concerning teachers' involvement in shaping students views about gender roles. The majority agreed that teachers should be involved in shaping the students' perspectives about gender views; however, a larger majority supported the statement that students ought to be the one who decide the kind of gender role they prefer to play. It might be possible that the participants strongly felt that students must decide for themselves on these issues, but the participants maybe found it acceptable for teachers to be involved in shaping their students' views about gender roles.

Also, findings presented in Table 25 indicated that most pre-service teachers tended to hold egalitarian views about males' and females' characteristics and educational practices pertaining to math and science classes, classroom attention and discipline. Interestingly, pre-service teachers tended to have a stronger egalitarian orientation about the subscales classroom attention, and discipline, compared to the subscale math and science.

In addition, the findings of the correlation test as presented in Table 29 indicated that there was a strong relationship between teachers' orientation or beliefs about gender roles and their orientation or beliefs about specific students' characteristics and educational practices related to gender roles. Since all of the correlations were positive,

results shown in Table 29 indicated that generally pre-service teachers who have more egalitarian views about gender roles tended to have more egalitarian views about teachers' behaviors and practices as they relate to gender roles in the classroom. While teachers who hold less egalitarian views about gender roles also tended to have less egalitarian views about classroom behaviors and practices. This correlation test supports the researcher's initial expectation that the participants' beliefs about gender roles are more likely to contribute to their beliefs about students' characteristics and educational practices as they relate to gender roles.

Finally, the participants did not agree about teachers acting against or trying to reduce gender stereotypes that are probably present in the classroom. However, the majority agreed that teachers should try to challenge or reduce these stereotypes. Individuals within each group provided different reasons for their position on this issue. Those who advocated teacher' active involvement in reducing gender stereotypes suggested several educational practices that would help teachers eliminate gender stereotypes in the classroom and provide equal learning environment to both male and female students. Some of these suggested practices were using learning materials that represent the contributions of both males and females, calling on males and females equally in all subject areas, and reprimanding males and females in the same manner for misbehaving.

In the next chapter, summary of the study and conclusions will first be discussed. Implications and recommendation for future studies will then be presented.

CHAPTER V: CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

This chapter presents a summary of the dissertation study, draws conclusions and discusses implications for practices and future research. In the first section, a summary of the problem statement, research questions, and literature themes are presented. In the second section, conclusions drawn from the findings of the study are presented and discussed in relation to the ideas reviewed in the literature. In the third section, implications of the study for the teacher educators involved in the University of Pittsburgh's early childhood and elementary education programs and beyond are discussed. Finally, recommendations for future research are suggested.

OVERVIEW

The main focus of the study was to determine the beliefs of pre-service teachers about gender role differences and their related role and behaviors. The following research questions were developed to fulfill the objective of the study:

1. What do pre-service teachers believe about: (a) marital roles, (b) parental roles, (c) employment roles and (d) education roles as they relate to gender?
2. What is the relationship between key demographic characteristics of pre-service teachers (sex, age and marital status) and their beliefs about gender roles?

3. What are the perspectives of pre-service teachers on the role of teachers in relation to gender roles that affect students' learning?
4. What are the perspectives of pre-service teachers on specific students' characteristics and educational situations in the classroom as they relate to gender roles?
5. Assuming that some types of gender stereotypes are unacceptable in the classroom, what are the practices that pre-service teachers perceive will reduce those types of gender stereotypes in the classroom?

A Likert scale questionnaire was used to collect the data needed for this study.

117 early childhood and elementary pre-service teachers enrolled in classes during the Fall term of 2004 at the University of Pittsburgh, participated in the study. However, the majority of the participants were elementary pre-service teachers.

The literature and research reviewed related to teachers' and gender issues in the classroom revealed the following major trends:

- Teachers' beliefs influence their practices and behaviors toward students (Clark & Peterson, 1986; Fennema, 1990; Johnson, 1994; Kagan, 1992; Lindley & Keithely, 1991; Peterson et al., 1989; Sahin et al., 2002).
- Teachers' beliefs about gender roles could determine their practices toward male and female students (Beynon, 1989; Delamont, 1990; Tatar & Emmanuel, 2001).
- Teachers tend to hold stereotypical expectations about male and female students' gender roles. Teachers' expectations, perceptions or beliefs about students' behaviors, academic skills and achievement are often influenced by the cultural and societal gender stereotypes (Benz et al., 1981; Eliason & Jenkins, 1994;

Fennema et al., 1990; Jones & Wheatley, 1988; Llewellyn, 1998; Sadker & Sadker, 1982; Robinson, 1992; Shepardson & Pizzini, 1992; Spindler, 1997; Tiedemann, 2002).

- Teachers' gender stereotypical expectations or beliefs about male and female students' gender roles are harmful to both genders by limiting their ability to achieve and perform well in all subject areas (Edge et al., 1997; Sadker & Sadker, 1982, 1984; Secada et al., 1995).
- A large majority of studies documented patterns of gender biases in teachers' practices toward male and female students in respect to classroom interactions, praise and punishment, and amount of attention in science and math classes (Dezolt & Hull, 2001; Grossman & Grossman, 1994; Lips, 1997; Sadker & Sadker 1982, 1985, 1994; Sadker, Sadker & Klein, 1991; Stretmatter, 1994; Renzetti & Curran, 2003).

It is important to point out here that the aforementioned themes were mainly related to teachers teaching at the different educational levels as opposed to pre-service teachers enrolled in teacher education programs who are yet to teach. This might be one contribution of this study in which the researcher added pre-service teachers to the existing research about gender issues in education. Given these ideas from the literature, conclusions drawn from this study are presented in the next section.

CONCLUSIONS AND DISCUSSION

One of the most significant conclusions to be drawn from the findings of this study is that, in general, pre-service teachers (males and females) involved in this study hold egalitarian beliefs about gender roles. In particular, they tended to have a strong egalitarian position on employment roles and issues related to work opportunities for males and females. For example, of the 117 pre-service teachers, 94% rejected the idea that males should be given a priority in professional training opportunities. On the other hand, 98% accepted the idea that males and females should be offered equal job opportunities. Since the majority of the participants were young and unmarried females, these factors could explain such findings. Hypothetically, women are more likely to feel that they should have equal opportunity as their counterparts to work outside the house, have a career and support themselves, in addition to probably fulfilling the need of being independent. Since male pre-service teachers also tended to hold egalitarian views about gender roles, it is possible to conclude that a man choosing elementary teaching is generally going against the societal stereotypes as suggested by Tatar & Emmanuel (2001). They further add that male elementary teachers need to confront gender issues at a personal level and probably to a greater degree than women do. Therefore, the egalitarian attitudes of male teachers may be understood as an expression of the awareness of gender issues (p. 222).

Although both male and female pre-service teachers were found to hold an egalitarian position on gender roles, the study concludes that females had a stronger egalitarian position. This finding is consistent with the findings of previous research (Alsalehi, 1998; Bennett & Bennett, 1994; Duffy et al., 2002; Jacko et al., 1981; Massey

& Christensen, 1990; Merrett & Wheldall, 1992; Tatar & Emmanuel, 2001) indicating that females more than males tend to hold egalitarian views about gender roles. The finding in the present study also differs from the findings of a study conducted by Shepardson and Pizzin (1992) where female elementary teachers were found to hold traditional views about gender roles. Females generally tend to possess a stronger egalitarian orientation about gender roles because of the viewpoint that gender equality in society would benefit women more than men (Geffner & McClure, 1990; Tantekin, 2002). Thus, it can be speculated that women are more concerned with issues of gender equality, and this may have an impact on their beliefs about gender roles. However, the findings of this study indicate that males and females tended to have egalitarian views about gender roles. The young age of the participants and issues of equality of the sexes in today's society may have contributed to such findings. It is also possible as found by Massey and Christensen (1990) that student teachers may adopt egalitarian attitudes out of self-interest and personal benefits rather than as a matter of principle.

Although the egalitarian attitude of pre-service teachers in the present study was consistent, there is a need to suggest that "attitudes towards gender roles are marked by complexity and contradiction" Taylor and Mardle (as cited in Massey & Christensen, 1990). For example, presumably, in an egalitarian culture and among individuals who hold egalitarian views about gender roles, there still might be certain characteristics that those individuals associate with being a male or a female. Therefore, there might be some stereotypical beliefs about masculinity or femininity taken-for-granted by those individuals. Massy and Christensen (1990) describe these beliefs as traditional stereotypes that are resistant to change.

Unlike the variable sex, the study concludes that the variables age and marital status did not appear to be related to the beliefs of pre-service teachers about gender roles. However, the majority of the participants were 21- 30 years old and were single. There were relatively few participants over the age of 30 or previously married and that might have contributed to these findings. These findings coincide with a study conducted by Alsharie (1998) where the variables age and marital status were not significantly related to pre-service teachers' attitudes toward gender roles. The finding related to the variable age was found to contradict previous research, (Alsalehi, 1998; Wooldridge & Richman, 1985) where age was found to be important in accounting for the variation in individuals' views about gender-roles. However, the reader is reminded that in the present study, there wasn't much variation among the participants in relation to the variable age.

Another important conclusion is that pre-service teachers were almost divided on the issue of whether teachers should be involved in shaping students' perspectives about gender roles, whether students are the ones who should decide on the preferable gender roles. However, pre-service teachers were slightly more in favor of the second position. A possible explanation is that pre-service teachers were more likely to believe that students should be the ones who make the ultimate decision about their gender roles, but probably they found it acceptable for teachers to have a role in shaping their students' views about gender roles. For example, one of the pre-service teachers referred to her role by stating, "In younger classes, students are still shaping their ideas. A teacher can help them make a more informed opinion" regarding their ideas about gender roles.

In addition, pre-service teachers tended to hold egalitarian views about specific males and females characteristics and educational practices pertaining to classroom attention, math and science classes, and discipline. For example, of the 117 pre-service teachers, almost 97% rejected the idea that it would be acceptable for boys more than girls to be punished strictly for misbehaving, while almost 94% accepted the idea that boys and girls who misbehave should be punished in exactly the same way. Interestingly, pre-service teachers were found to have a stronger egalitarian orientation about classroom attention, and disciplinary situations, compared to math and science classes. A possible explanation is that the societal stereotypes that males are better in science and math subjects, while female are better in the humanitarian science may still be present in the minds of pre-service teachers whose ideas and beliefs are shaped by the cultural and societal context. According to researchers (Jones & Wheatley, 1988; Lindley & Keithely, 1991; Spindler, 1997), teachers are products of the culture, values and expectations of their society.

Also, it was noticed that some pre-service teachers were undecided about some of the issues pertaining to teachers' role, classroom attention, math and science classes, and discipline as they relate to gender roles. For example, of the 117 pre-service teachers, 27% were undecided about the statement that male students generally need more instructional contact in the classroom than female students do. It is possible that there is a problem in the formation of some of the statements (37, 41, 44, 46, 49-51, 57, and 61-67) in the questionnaire concerning these issues. It could be that some respondents were unsure whether to view some of the statements as a fact based on national tests (i.e. male students generally do better in math than female students) or as inherent skills males and

females may possess (i.e. boys generally possess more scientific skills than girls).

Another explanation would be that the participants were probably unsure about these issues that may exist in classrooms since they have relatively little or no teaching experience in formal classrooms.

Although it can be concluded that pre-service teachers hold egalitarian orientation about students' characteristics and educational practices, there were some typical gender stereotypes that were perceived as acceptable by some of pre-service teachers. For example, of the 117 pre-service teachers, 32% accepted the idea that males misbehave more than females, 26% supported the view that male students generally do better in math than female students, 22% accepted the view that males demand more attention than females, and similarly 22% accepted the view that misbehaving males should be reprimanded publicly. These issues were also documented in previous studies (Dezolt & Hull, 2001; Grossman & Grossman, 1994; Lips, 1997; Sadker & Sadker 1982, 1985, 1994; Sadker, Sadker & Klein, 1991; Stretmatter, 1994; Renzetti & Curran, 2003) concerning patterns of discrimination in teachers' practices and interaction patterns with male and female students in the classroom.

An important conclusion and a contribution of the study is that there was a significant relationship between pre-service teachers' beliefs about gender roles and their beliefs about teachers' role, students' characteristics and teaching situations as they relate to gender roles. This finding is similar to the finding of a recent study conducted by Tantekin (2002) showing that there is a relationship between early childhood teachers' attitudes toward gender roles and their attitudes toward discipline. A large body of the literature reviewed suggested that teachers' beliefs, in general, influence their practices in

the classroom (Clark & Peterson, 1986; Fennema, 1990; Johnson 1994; Kagan, 1992; Lindley & Keithely, 1991; Peterson et al., 1989; Sahin et al., 2002). Few studies (Beynon, 1989; Delamont, 1990; Tatar & Emmanuel, 2001) reported that teachers' beliefs about gender roles would inform their practices toward male and female students. This study adds to these existing ideas that the beliefs of pre-service teachers' about gender roles could determine their beliefs about teachers' role and related behaviors and educational practices pertaining to gender roles. This finding was expected because pre-service teachers' perspectives on gender roles would be more likely to influence their perspectives about educational situations involving male and female students. For example, if a pre-service teacher rejected the perspective that males tend to be more competitive than females, he or she would probably reject the perspective that it would be acceptable for male students to call out answers when the teacher asks a question as opposed to female students.

In addition, the study concludes that the majority (87) of pre-service teachers supported the idea that teachers should actively be involved in reducing societal gender stereotypes in the classroom; however, a small number (23) of pre-service teachers opposed such active involvement. Most pre-service teachers (87) found gender stereotypes to have a negative impact on students' achievement and future work opportunities. For example, one pre-service teacher stated that "teachers should act to reduce the stereotypes because they often lead to lack of interest for certain students in specific subjects (e.g. girls often loose interest in math and science because they think it's not important for them to have knowledge in these areas). Such reasoning coincides with the ideas in the literature (Edge et al., 1997; Sadker & Sadker, 1982, 1984; Secada et al.,

1995) concerning the impact of gender stereotypes on males' and females' academic performance. This shows that these pre-service teachers are probably aware of the negative affects of gender stereotypes on students' performance in schools.

A large number of pre-service teachers suggested teaching practices pertaining to the areas of curriculum and teaching resources, and teachers' interactions in the classroom to reduce gender stereotypes. For example, one pre-service teacher stated, "hang pictures/posters in the room that show females doing "male" careers and males doing "female careers". Another pre-service teacher stated, "[use] reading books with non-traditional gender roles. Do not use books or other resources, which show blatant gender stereotyping." Issues related to equality of classroom attention, teachers' expectations about students' abilities in math and science, and equality of praise and punishment were also among the suggested practices. A large majority of studies (Dezolt & Hull, 2001; Grossman & Grossman, 1994; Lips, 1997; Sadker & Sadker 1982, 1985, 1994; Sadker, Sadker & Klein, 1991; Stretmatter, 1994; Renzetti & Curran, 2003) documented patterns of gender biases in teachers' behaviors with respect to the same issues pointed out by these pre-service teachers.

Finally, although the majority of pre-service teachers defined gender equity as providing equal opportunities for both male and female students, there were few pre-service teachers who understood gender equity as providing more learning opportunities for female students in math and science classes. Interestingly, the literature suggests that gender equity can be equated with providing the same or equal educational opportunities, support and expectations for both male and female students. It can also be defined in terms of fairness, in which males and females should be treated in accordance with their

needs. Within the second approach, it is considered fair to provide unequal and greater educational opportunities for students who are the victims of gender bias, e.g. females being less advantaged in areas such as math and science (DeMarrais, & LeCompte, 1999; Grossman & Grossman, 1994; Strettmatter, 1994). However, more efforts need to be directed toward educating pre-service teachers and others about the negative effects of stereotypes, not only on females, but also on males.

I would like to conclude by saying that equal educational provision for male and female students across all educational levels is very important. However, individual differences, regardless of gender, should also be taken into consideration when interacting with students. I would also like to state my opinion that while there are clear biological differences between male and female students, these differences should not be acceptable excuses as to differentiate between male or female students or as to limit their opportunities to learn and perform in society.

IMPLICATIONS OF THE STUDY

This study attempted to contribute to the area of pre-service teachers' beliefs about gender roles and their beliefs about related teachers' role, and teaching practices concerning classroom attention, math and science classes and discipline. Although this study has its limitations, it has implications for the programs involved in this study (early childhood education and elementary education) and others beyond these programs.

The following implications are proposed to the programs involved in this study:

1. Although the majority of pre-service teachers in this study were found to hold egalitarian orientation about gender roles and educational situations, several stereotyped views were accepted by some of the teachers. For example, males misbehaving more than females, males demanding more attention than females, males being reprimanded publicly for misbehaving, and males performing better in math than females. Therefore, it would be important for teachers' educators to sensitize pre-service teachers toward issues of gender equity by incorporating some of these issues into classroom discussions, providing courses or seminars or even conducting lessons that focus on gender roles in relation to education. According to Tobin and Garnett (1987) teachers must be sensitized to the gender role differences and assisted to develop skills necessary to provide equal engagement opportunities to all students. It is also recommended that teachers' educators engage with pre-service teachers in reflective discussions about educational issues or situations related to gender equity that they might have encountered, as they are student teaching. By doing so, pre-service teachers would be more aware of gender issues and societal stereotypes that hamper students' learning as they are student teaching or would teach in the future. According to Borim (2000) awareness about gender equity is a significant issue that deserves an essential part of teacher education programs. Beginning teachers' awareness of gender equity is the underpinning of gender sensitive teaching (p. 5). Hopefully, such awareness

will guide their teaching practices and provide the basis for creating non-biased classrooms in the future.

2. In this study, some pre-service teachers pointed out that teachers are role models to their students and, thus, they need to act in a non-stereotypical fashion. For example, one pre-service teacher stated, “I think it is important for teachers to act as the role models they are concerning equality of gender. By acting and showing students that males and females are equal, the students will imitate the teachers’ actions”. Similarly, in a university setting, teacher educators need to be aware of their behaviors and cautious not to have patterns of biased teaching practices present in their classrooms, as they are role models to their students.

In addition, considering the issue of gender roles and the population studied being mainly females, there is a need for the programs involved in this study (early childhood education, and elementary education) to evaluate their programs and recruit more male students. There were relatively few male pre-service teachers enrolled in these programs. Other teacher education programs also need to recruit male teachers into the profession of teaching especially in the earlier grades. There is a shortage of male teachers in many countries around the world. I think young students need to be exposed to male and female teachers because each one has something unique to offer. Male teachers can also be role models especially to male students.

Other implications proposed to others beyond the programs studied are as follows:

1. Schools are social agencies that have an effect on young male and female students' beliefs about gender roles. Therefore, schools are encouraged to adopt policies and recommendations that would provide equal educational opportunities to both males and females. Also, it would be recommended to provide a school curriculum and learning materials that emphasize equality between both sexes as discussed in the findings of this study.
2. Teachers play an important role in shaping students' ideas and perspectives about many things, including gender roles. Therefore, as suggested by some pre-service teachers, it is important that teachers are aware of their behaviors when interacting with male and female students. Teachers should also be conscious not to enforce their own beliefs about gender roles upon their students implicitly or explicitly. Teachers also should continue to reflect upon their daily practices and seek to create equal learning opportunities for male and female students.
3. Administrators, teachers, prospective teachers and parents need to be aware of gender stereotypes that affect students' performance in schools. They can be aware of these issues through attending workshops, classes or seminars that deals with issues of gender equity. Increasing their awareness could hopefully be the first step to reducing some of these stereotypes.
4. Parents as well as teachers play an important role in socializing boys and girls into their future adult roles. Therefore, they need to have a positive influence, for example by encouraging young males and females to enter any field of study they

decide on. They should be careful not to limit the children's future choices just because he/she is a boy or a girl.

RECOMMENDATIONS FOR FUTURE RESEARCH

From this study, the following recommendations for future research can be drawn:

1. If the same study were to be repeated, in addition to using the questionnaire, conducting follow up interviews with six male participants and six female participants who would vary to some degree in their age and marital status would be recommended. This would give more depth to the findings.
2. If the same instrument were to be used in another research, the researcher recommends revising Part C on the questionnaire since a considerable number of undecided responses was observed. It is possible that some statements in this part were not clear or specific enough, therefore, rewording some of the statements and retesting the instrument are recommended. The researcher also recommends combining Part B and Part C of the questionnaire into one section, since both parts dealt with educational issues concerning gender roles. Part B dealt with issues related to teachers' role and involvement, while Part C addressed issues related to classroom attention, math and science classes, and discipline.
3. The participants in this study were mostly young, unmarried females and these factors may have contributed to the findings of the study. Therefore, it would be recommended to draw on a larger sample and include other pre-service teachers from other educational programs and possibly other educational institutions to

have a more diverse population and make the results easy to generalize to other pre-service teachers.

4. Considering the significant impact of teacher education programs on teachers' beliefs and behaviors, a future study can focus on the role of this teacher education program or other teacher education programs across the country in preparing prospective teachers to teach in a classroom free of gender biases. Part of the study would involve evaluating the program/programs studied through interviewing teacher educators or observing University classrooms.
5. It can also be useful for a future study if the sample consisted of practicing male and female teachers who teach at the elementary level and those who teach at the secondary level. Presumably, teachers teaching and interacting with different age groups of students have different views about gender roles.
6. Since this study included few male pre-service teachers, a future study can focus mainly on male pre-service teachers enrolled in early childhood or elementary education, or practicing male teachers who teach young children at daycares or elementary schools. The study would investigate their perspectives on gender roles, teaching as a career, in addition to the challenges they may face going against the stereotypes by being in a pre-dominantly female field.
7. A future study can investigate existing biased or unbiased patterns of teaching practices in the classrooms to look closely at the relationship between teachers' beliefs and behaviors. Classroom observations and interviews of teachers would be preferable.

8. A future study can possibly compare the beliefs of pre-service teachers about gender roles and teaching practices to the beliefs of practicing teachers who has been teaching for no more than five years. This would allow the researcher to investigate the effect of the work place (school) on the beliefs about gender roles.

APPENDICES

APPENDIX A: COVER LETTER

Dear Participant

My name is Farah Almutawa and I'm a graduate student in the School of Education at the University of Pittsburgh. I'm conducting this study to fulfill the requirements for my doctoral degree and your participation in the study would enable me to gather the important data I need to complete my dissertation. I hope you will agree to assist me by participating in this study. Your participation in this study is completely voluntary.

The study focuses on gender roles differences and the role of teachers in relation to gender differences. I'm interested in learning about your personal views and perspectives on important gender issues.

I attached to this letter the questionnaire that I would like you to fill out and return it to me during the classroom period. The questionnaire items concerns your beliefs about gender roles, your perspectives on the role of teachers in relation to gender, your perspectives on specific educational practices and personal demographic information. Completing the questionnaire should take approximately 15 minutes of your time.

You may be assured of complete confidentiality. All responses will be treated anonymously and kept in locked file cabinets. No individuals will be identified and data will be analyzed for the entire group of respondents.

If you have any questions that I can answer or if you need any additional information, please do not hesitate to contact me at telephone number (412) 788-9870 or via email at faa10@pitt.edu

Your participation in this study is greatly appreciated.
In advance, thank you for your assistance.

Sincerely,

Farah Almutawa, Ph.D. Candidate.
Department of Administrative & Policy Studies.
School of Education
University of Pittsburgh

APPENDIX B: REVISED RESEARCH INSTRUMENT

Part A:

The statements listed below describes attitudes or beliefs about gender roles in society held by different individuals. There is no right or wrong answer, only opinions. Therefore please provide your honest opinion regarding each statement. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your personal feelings, views and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
1. Cleaning up the dishes should be a shared responsibility between a husband and a wife.	1	2	3	4	5
2. Taking care of the children should be the primary responsibility of mothers.	1	2	3	4	5
3. Teaching as a career is more appropriate for females than males.	1	2	3	4	5
4. Males more than females should be encouraged to attend higher education.	1	2	3	4	5
5. Taking out garbage should be primarily the husband's responsibility.	1	2	3	4	5
6. A husband should be the head of the family.	1	2	3	4	5
7. Taking care of the children should <u>not</u> be only the mother's job.	1	2	3	4	5
8. Males would be more capable of running their own business than females.	1	2	3	4	5
9. Home economic courses are as appropriate for male students as for female students.	1	2	3	4	5
10. Males should be encouraged to enter traditionally female jobs such as teaching, nursing and secretary.	1	2	3	4	5
11. Making financial decisions in the family should be primarily the husband's responsibility.	1	2	3	4	5

Statement	SD	D	UD	A	SA
12. Fathers can be as good as mothers in taking care of the children.	1	2	3	4	5
13. Females can be as successful as males in running their own business.	1	2	3	4	5
14. Females should be encouraged to enter fields such as engineering, medicine or architecture.	1	2	3	4	5
15. Professional training should be offered equally for males and females.	1	2	3	4	5
16. A husband should <u>not</u> get involved in the domestic affairs of the household such as childcare and food preparation.	1	2	3	4	5
17. It would be more effective for the father to discipline the children rather than the mother.	1	2	3	4	5
18. It is not appropriate for females to enter traditionally male jobs such as construction, management and engineering.	1	2	3	4	5
19. Males should be given priority in professional training opportunities.	1	2	3	4	5
20. The best place for a wife is at home and not at work.	1	2	3	4	5
21. It can be a problem if the wife earns more money than the husband.	1	2	3	4	5
22. If a child is sick, the mother is the one who should stay at home with the child as opposed to the father.	1	2	3	4	5
23. Males and females should be offered equal job opportunities.	1	2	3	4	5
24. Males can be better in Math and Science than females.	1	2	3	4	5
25. Females can be better in Reading than males.	1	2	3	4	5
26. A husband and a wife should be equally responsible for taking care of the household.	1	2	3	4	5
27. It is more appropriate if the mother rather than the father changes the baby's diaper.	1	2	3	4	5
28. Males should be paid more than females for the same work.	1	2	3	4	5
29. Males and females should have equal opportunity for work promotions.	1	2	3	4	5
30. When a child awakes at night, the mother should be the one who attends to the child.	1	2	3	4	5
31. Male and female students should receive equal instructional attention in all subject areas.	1	2	3	4	5

Statement	SD	D	UD	A	SA
32. Part time jobs are more appropriate for females than full time jobs.	1	2	3	4	5
33. Males tend to be more competitive than females.	1	2	3	4	5

Part B:

The statements listed below describe beliefs on the role teachers play in relation to gender roles in the classroom. There is no right or wrong answer, only opinions. Please respond to each statement as you actually feel. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your personal feelings, views and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
34. Teachers should encourage male and female students to enroll in some courses that do <u>not</u> reflect societal stereotypes.	1	2	3	4	5
35. Teachers should <u>not</u> use students' gender as a criterion for making educational decisions about them.	1	2	3	4	5
36. Students should be the ones who must ultimately decide the kind of gender role they prefer to perform in society.	1	2	3	4	5
37. Teachers should discourage students from acting out gender stereotypical roles.	1	2	3	4	5
38. Teachers should accept males' stereotypical behavior such as being active and aggressive.	1	2	3	4	5
39. Teachers should accept females' stereotypical behavior such as being quiet and shy.	1	2	3	4	5
40. Teachers should be involved in shaping their students' perceptions about gender roles.	1	2	3	4	5

Statement	SD	D	UD	A	SA
41. Teachers must prepare male and female students to fulfill different social roles because there are biological differences between the sexes.	1	2	3	4	5
42. Teachers should encourage male and female students to enroll in courses that reflect societal stereotypes.	1	2	3	4	5
43. Teachers should assign students to single-sex groups during class to protect females from being dominated by males.	1	2	3	4	5
44. It would be appropriate if teachers separated male and female students for certain activities such as physical education.	1	2	3	4	5
45. Teachers should model gender stereotypical behavior.	1	2	3	4	5
46. Teachers should reward male students for behaving in a gender stereotypical manner such as opening the door for female students.	1	2	3	4	5
47. It would <u>not</u> be appropriate for teachers to communicate stereotypical expectations to students.	1	2	3	4	5
48. It would be appropriate if teachers punished students for not behaving in a gender stereotypical manner.	1	2	3	4	5

Part C:

The statements listed below describe perspectives on specific situations in the classroom. There is no right or wrong answer, only opinions. Please respond to each statement as you actually feel. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your personal feelings, views and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
49. Male students generally do better in math than female students.	1	2	3	4	5
50. Misbehaving female students should be reprimanded privately.	1	2	3	4	5
51. Boys generally possess more scientific skills than girls.	1	2	3	4	5
52. It would be acceptable for male students to call out answers when the teacher asks a question as opposed to female students.	1	2	3	4	5
53. It would be acceptable for boys more than girls to be punished strictly for misbehaving.	1	2	3	4	5
54. Male students would require more eye contact with the teacher than female students.	1	2	3	4	5
55. Male students can be high achievers in math classes more than female students.	1	2	3	4	5
56. Male students more than female students would have the ability to solve sophisticated mathematical problems.	1	2	3	4	5
57. Misbehaving male students should be reprimanded publicly.	1	2	3	4	5
58. Boys more than girls would enjoy using science equipment and performing experiments in science classes.	1	2	3	4	5
59. Girls <u>cannot</u> perform as well as boys in advanced math courses such as calculus.	1	2	3	4	5
60. Boys and girls who misbehave should be punished in exactly the same way.	1	2	3	4	5
61. In science classes, female students generally participate as much as male students in laboratory activities and demonstrations.	1	2	3	4	5
62. Male students generally need instructional contact in the classroom more than female students.	1	2	3	4	5
63. Misbehaving girls should be punished gently.	1	2	3	4	5
64. Boys generally dominate the math classroom interactions more than girls.	1	2	3	4	5
65. Boys generally demand more attention than girls.	1	2	3	4	5
66. In science and math classes, females generally volunteer answers as much as males.	1	2	3	4	5
67. Male students generally misbehave more than female students.	1	2	3	4	5
68. Girls should have as much opportunity as boys to answer questions in all classrooms.	1	2	3	4	5

Part D.
Demographic Information

69. Please indicate your sex:

____1) Male ____2) Female

70. Which of the following categories best describes your age?

____1) 20 years old or younger ____2) 21-30 years old ____5) 51 years old
or older
____3) 31-40 years old ____4) 41-50 years old

71. Which of the following best describes your marital status?

____1) (Never married) Single ____2) Married
____3) Divorced ____4) Widowed
____5) Separated

72. Which of the following best describes your racial background?

____1) Caucasian ____2) African American
____3) American Indian ____4) Asian
____5) Latino ____6) Other (Please specify) _____

73. What is your father's highest level of education?

____1) Less than high school ____2) High school
____3) Some college or technical school. ____4) Bachelor's degree
____5) Post graduate degree

74. What is your mother's highest level of education?

____1) Less than high school ____2) High school
____3) Some college or technical school. ____4) Bachelor's degree
____5) Post graduate degree

75. Which of the following best describes the income range of the family you grew up in?

_____1) < \$ 25,000 _____2) \$ 25,000-40,000

_____3) \$ 41,000-60,000 _____4) over \$ 60,000

76. What program are you enrolled in?

_____1) Professional Year (PY) Elementary Education Program.

_____2) Master of Art in Teaching (MAT) Elementary Education Program.

_____3) Early Childhood Education Program

_____4) Other programs in the School of Education

Please specify _____

_____5) Program outside the School of Education

Please specify _____

77. Did you have any previous (informal or formal) teaching experience?

_____1) Yes

Please specify _____

_____2) No

Part E.

Please answer the following questions based on your own views:

Q78. Do you think teachers should teach or act intentionally in the classroom to reduce societal gender stereotypes that result in differentiated opportunities to learn?

_____1) Yes _____2) No (Please indicate one).

Please give your reasons for your answer.

Q79. If you answered “yes” to question (78), please suggest specific behaviors, ways or practices that teachers could implement so that gender stereotypes do not affect male or female students’ learning in the classroom?

APPENDIX C: PILOT TEST COPY OF THE INSTRUMENT

Part A:

The statements listed below describes attitudes or beliefs about gender roles in society held by different individuals. There is no right or wrong answer, only opinions. Therefore please provide your honest opinion regarding each statement. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your feelings and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
1. Cleaning up the dishes should be a shared responsibility between a husband and a wife.	1	2	3	4	5
2. Taking care of the children should be the primary responsibility of mothers.	1	2	3	4	5
3. Teaching as a career is more appropriate for females than males.	1	2	3	4	5
4. Males more than females should be encouraged to attend higher education.	1	2	3	4	5
5. Taking out garbage should be the primary responsibility of a husband.	1	2	3	4	5
6. A husband should be the head of the family.	1	2	3	4	5
7. Taking care of the children should <u>not</u> be only the mother's job.	1	2	3	4	5
8. Males are more capable of running their own business than females.	1	2	3	4	5
9. Home economic courses are as appropriate for male students as for female students.	1	2	3	4	5
10. Males should be encouraged to enter traditionally female jobs such as teaching, nursing and secretary.	1	2	3	4	5
11. Making financial decisions in the family should be the primary responsibility of the husband	1	2	3	4	5

Statement	SD	D	UD	A	SA
12. Fathers are as good as mothers in taking care of the children.	1	2	3	4	5
13. Females are as successful as males in running their own business.	1	2	3	4	5
14. Females should be encouraged to attend fields such as engineering, medicine or architecture.	1	2	3	4	5
15. Professional training should be offered equally for males and females.	1	2	3	4	5
16. A husband should <u>not</u> get involved in the domestic affairs of the household such as childcare and food preparation	1	2	3	4	5
17. It is more effective for the father to discipline the children rather than the mother.	1	2	3	4	5
18. It is not appropriate for females to enter traditionally male jobs such as construction, management and engineering.	1	2	3	4	5
19. Males should be given priority in professional training opportunities.	1	2	3	4	5
20. The best place for a wife is at home and not at work.	1	2	3	4	5
21. It is a problem if the wife earns more money than the husband.	1	2	3	4	5
22. If a child is sick, the mother is the one who should stay at home with the child.	1	2	3	4	5
23. Males and females should be offered equal job opportunities.	1	2	3	4	5
24. Males are better in Math and Science.	1	2	3	4	5
25. Females are better Reading.	1	2	3	4	5
26. A husband and a wife should be equally responsible for taking care of the household.	1	2	3	4	5
27. It is more appropriate if the mother rather than the father changes the baby's diaper.	1	2	3	4	5
28. Males should be paid more than females for the same work.	1	2	3	4	5
29. Males and females should have equal opportunity for work promotions.	1	2	3	4	5
30. When a child awakes at night, the mother is the one who should attend to the child.	1	2	3	4	5
31. Male and female students should receive equal instructional attention in all subject areas.	1	2	3	4	5
32. Part time jobs are more appropriate for females than full time jobs	1	2	3	4	5

Statement	SD	D	UD	A	SA
33. Males tend to be more competitive than females.	1	2	3	4	5

Part B:

The statements listed below describe beliefs on the role teachers play in relation to gender roles in the classroom. There is no right or wrong answer, only opinions. Please respond to each statement as you actually feel. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your feelings and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
34. Teachers should encourage male and female students to enroll in courses that do <u>not</u> reflect societal stereotypes.	1	2	3	4	5
35. Teachers should <u>not</u> use students' gender roles as a criterion for making educational decisions about them.	1	2	3	4	5
36. Students are the ones who must ultimately decide the kind of gender role they prefer.	1	2	3	4	5
37. Teachers should discourage students from acting out gender stereotypical roles	1	2	3	4	5
38. Teachers should accept males' stereotypical behavior such as being active and aggressive.	1	2	3	4	5
39. Teachers should accept females' stereotypical behavior.	1	2	3	4	5
40. Teachers should be involved in shaping their students' perceptions about gender roles.	1	2	3	4	5
41. Teachers must prepare male and female students to fulfill different social roles because there are physiological differences between the sexes.	1	2	3	4	5
42. Teachers should encourage male and female students to enroll in courses that reflect societal stereotypes.	1	2	3	4	5

Statement	SD	D	UD	A	SA
43. Teachers should assign students to single-sex groups during class to protect females from being dominated by males.	1	2	3	4	5
44. It would be appropriate if teachers separated male and female students for activities such as physical education.	1	2	3	4	5
45. Teachers should model gender stereotypical behavior.	1	2	3	4	5
46. Teachers should reward students for behaving in a gender stereotypical manner.	1	2	3	4	5
47. It is <u>not</u> appropriate for teachers to communicate stereotypical expectations to students	1	2	3	4	5
48. It is appropriate when teachers punish students for not behaving in a gender stereotypical manner.	1	2	3	4	5

Part C:

The statements listed below describe perspectives on specific situations in the classroom. There is no right or wrong answer, only opinions. Please respond to each statement as you actually feel. For each of the following statements, please indicate the extent to which you agree or disagree. Please make sure to answer each statement, even if you are not sure of your answer.

Please indicate your opinions regarding each statement by circling the number to the right of the statement that reflects your feelings and beliefs.

1= Strongly Disagree (SD)

2= Disagree (D)

3=Undecided (UD)

4=Agree (A)

5=Strongly Agree (SA)

Statement	SD	D	UD	A	SA
49. Male students are expected to do better in math than female students	1	2	3	4	5
50. Misbehaving female students should be reprimanded privately.	1	2	3	4	5
51. Boys possess more scientific skills than girls.	1	2	3	4	5
52. It is acceptable for male students to call out answers when the teacher asks a question	1	2	3	4	5

Statement	SD	D	UD	A	SA
53. It is acceptable for boys to be punished physically for misbehaving.	1	2	3	4	5
54. Male students require more eye contact with the teacher than female students.	1	2	3	4	5
55. Male students more than female students are achievers in math classes.	1	2	3	4	5
56. Male students more than female students have the ability to solve sophisticated mathematical problems.	1	2	3	4	5
57. Misbehaving male students should be reprimanded publicly.	1	2	3	4	5
58. Boys more than girls enjoy using science equipment and performing experiments in science classes.	1	2	3	4	5
59. Girls are expected <u>not</u> to excel in advanced math courses such as calculus.	1	2	3	4	5
60. Boys and girls in a misbehaving situation should be punished in exactly the same way.	1	2	3	4	5
61. In science classes, male students participate as much as female in laboratory activities and demonstrations.	1	2	3	4	5
62. Male students need instructional contact in the classroom more than female students.	1	2	3	4	5
63. Girls should not be punished physically.	1	2	3	4	5
64. Boys dominate the math classroom interactions more than girls.	1	2	3	4	5
65. Boys demand more attention than girls.	1	2	3	4	5
66. In science and math classes, females volunteer answers as much as males.	1	2	3	4	5
67. Male students misbehave more than female students	1	2	3	4	5
68. Girls have as much opportunity as boys to answer questions in all classrooms.	1	2	3	4	5

Part D.
Demographic Information

69. Please indicate your sex:

____ 1) Male ____ 2) Female

70. Which of the following categories best describes your age?

- ____1) 20 years old or younger ____2) 21-30 years old
____3) 31-40 years old ____4) 41-50 years old
____5) 51 years old or older

71. Which of the following best describes your marital status?

- ____1) (Not married) Single ____2) Married
____3) Divorced ____4) Widowed
____5) Separated

72. Which of the following best describes your racial background?

- ____1) Caucasian ____2) African American
____3) American Indian ____4) Asian
____5) Latino ____6) Other (Please specify) _____

73. Please indicate your father's occupation: _____

74. Which of the following best describes the income range of the family you grew up in?

- ____1) < \$ 25,000 ____2) \$ 25,000-40,000
____3) \$ 41,000-60,000 ____4) over \$ 60,000

75. What program are you enrolled in?

- ____1) Elementary Education Program. (Please indicate one)
____1) Professional Year (PY) Program.
____2) Master of Art in Teaching (MAT) Program
____2) Early Childhood Education Program
____3) Other programs in the School of Education

Please specify _____

____ 4) Program outside the School of Education

Please specify _____

76. Did you have any previous (informal or formal) teaching experience?

____ 1) Yes

Please specify _____

____ 2) No

Part E.

Please answer the following questions based on your own views:

Q77. Do you think teachers should teach or act differently in the classroom to challenge societal gender stereotypes that result in differentiated opportunities to learn?

____ 1) Yes

____ 2) No

(Please indicate one).

Please give your reasons for your answer.

Q78. If you answered “yes” to question (77), please suggest ways in which teachers could teach or act differently so that gender stereotypes do not affect male or female students to learn and achieve in the classroom?

Q79. Do you think teachers should conform or foster societal gender stereotypes in the classroom?

____1) Yes ____2) No (Please indicate one).

Please give your reasons for your answer.

Q80. If you answered “yes” to question (79), please suggest ways in which teachers could support societal gender stereotypes in the classroom?

APPENDIX D: FREQUENCY OF RESPONSES ON QUESTIONNAIRE ITEMS, PART A

Item #	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
1	Cleaning up the dishes should be a shared responsibility between a husband and a wife.	1	0.9	1	0.9	0	0.0	31	26.5	84	71.8
2	Taking care of the children should be the primary responsibility of mothers.	38	23.5	60	51.3	5	4.3	12	10.3	2	1.7
3	Teaching as a career is more appropriate for females than males.	60	51.3	53	45.3	3	2.6	1	.9	0	0.0
4	Males more than females should be encouraged to attend higher education.	95	81.2	18	15.4	3	2.6	1	.9	0	0.0
5	Taking out garbage should be primarily the husband's responsibility.	40	34.2	50	42.7	4	3.4	17	14.5	6	5.1
6	A husband should be the head of the family.	41	35.0	45	38.8	6	5.2	15	12.9	9	7.8
7	Taking care of the children should <u>not</u> be only the mother's job.	1	.9	1	.9	2	1.7	29	24.8	84	71.8
8	Males would be more capable of running their own business than females.	73	62.4	38	32.5	4	3.4	2	1.7	0	0.0
9	Home economic courses are as appropriate for male students as for female students.	1	.9	3	2.6	2	1.7	48	41.0	63	53.8
10	Males should be encouraged to enter traditionally female jobs such as teaching, nursing and secretary.	1	.9	5	4.3	11	9.4	58	49.6	42	35.9
11	Making financial decisions in the family should be primarily the husband's responsibility.	70	59.8	41	35.0	1	.9	3	2.6	2	1.7
12	Fathers can be as good as mothers in taking care of the children.	0	0.0	1	.9	1	.9	48	41.0	67	57.3
13	Females can be as successful as males in running their own business.	0	0.0	0	0.0	2	1.7	29	24.8	86	73.5

Item #	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
14	Females should be encouraged to enter fields such as engineering, medicine or architecture.	0	0.0	0	0.0	4	3.4	38	32.5	75	64.1
15	Professional training should be offered equally for males and females.	0	0.0	0	0.0	1	.9	22	18.8	94	80.3
16	A husband should <u>not</u> get involved in the domestic affairs of the household such as childcare and food preparation.	90	76.9	27	23.1	0	0.0	0	0.0	0	0.0
17	It would be more effective for the father to discipline the children rather than the mother.	45	38.5	58	49.6	10	8.5	4	3.4	0	0.0
18	It is not appropriate for females to enter traditionally male jobs such as construction, management and engineering.	67	57.3	46	39.3	2	1.7	0	0.0	2	1.7
19	Males should be given priority in professional training opportunities.	87	74.4	23	19.7	1	.9	3	2.6	3	2.6
20	The best place for a wife is at home and not at work.	83	70.9	27	23.1	5	4.3	2	1.7	0	0.0
21	It can be a problem if the wife earns more money than the husband.	34	29.1	34	29.1	15	12.8	32	27.4	2	1.7
22	If a child is sick, the mother is the one who should stay at home with the child as opposed to the father.	47	40.2	59	50.4	7	6.0	3	2.6	1	.9
23	Males and females should be offered equal job opportunities.	1	.9	0	0.0	1	.9	9	16.2	96	82.1
24	Males can be better in Math and Science than females.	29	24.8	40	34.2	17	14.5	30	25.6	1	.9
25	Females can be better in Reading than males.	28	23.9	37	31.6	17	14.5	34	29.1	1	.9
26	A husband and a wife should be equally responsible for taking care of the household.	0	0.0	2	1.7	0	0.0	32	27.6	82	70.7
27	It is more appropriate if the mother rather than the father changes the baby's diaper.	68	58.1	43	36.8	2	1.7	4	3.4	0	0.0
28	Males should be paid more than females for the same work.	98	83.8	18	15.4	1	.9	0	0.0	0	0.0

Item #	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
29	Males and females should have equal opportunity for work promotions.	0	0.0	1	.9	1	.9	20	17.1	95	81.2
30	When a child awakes at night, the mother should be the one who attends to the child.	49	41.9	63	53.8	4	3.4	1	.9	0	0.0
31	Male and female students should receive equal instructional attention in all subject areas.	0	0.0	2	1.7	2	1.7	23	19.7	90	76.9
32	Part time jobs are more appropriate for females than full time jobs.	65	55.6	45	38.5	4	3.4	3	2.6	0	0.0
33	Males tend to be more competitive than females.	21	17.9	35	29.9	17	14.5	36	30.8	8	6.8

APPENDIX E: DESCRIPTIVE STATISTICS ON ITEMS IN PART B SCALE

Item (n=117)	(M)	(SD)	Maximum	Minimum
1. Teachers should encourage male and female students to enroll in some courses that do <u>not</u> reflect societal stereotypes.	4.24	.77	5	1
2. Teachers should <u>not</u> use students' gender as a criterion for making educational decisions about them.	4.56	.75	5	2
3. Students should be the ones who must ultimately decide the kind of gender role they prefer to perform in society.	4.38	.80	5	1
4. Teachers should discourage students from acting out gender stereotypical roles.	2.91	1.19	5	1
5. Teachers should accept males' stereotypical behavior such as being active and aggressive.	2.13	.98	4	1
6. Teachers should accept females' stereotypical behavior such as being quiet and shy.	2.17	.92	4	1
7. Teachers should be involved in shaping their students' perceptions about gender roles.	3.77	1.05	5	1
8. Teachers must prepare male and female students to fulfill different social roles because there are biological differences between the sexes.	2.32	1.01	5	1
9. Teachers should encourage male and female students to enroll in courses that reflect societal stereotypes.	1.91	.90	5	1
10. Teachers should assign students to single-sex groups during class to protect females from being dominated by males.	1.56	.72	4	1
11. It would be appropriate if teachers separated male and female students for certain activities such as physical education.	2.75	1.17	5	1
12. Teachers should model gender stereotypical behavior. (n=116)	1.84	.79	4	1
13. Teachers should reward male students for behaving in a gender stereotypical manner such as opening the door for female students.	2.60	1.08	5	1

Item (n=117)	(M)	(SD)	Maximum	Minimum
14. It would <u>not</u> be appropriate for teachers to communicate stereotypical expectations to students.	3.91	.94	5	1
15. It would be appropriate if teachers punished students for not behaving in a gender stereotypical manner.	1.61	.87	5	1

APPENDIX F: FREQUENCY OF RESPONSES ON QUESTIONNAIRE ITEMS, PART B

Item #	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
1	Teachers should encourage male and female students to enroll in some courses that do <u>not</u> reflect societal stereotypes.	1	.9	3	2.6	9	7.7	58	49.6	46	39.3
2	Teachers should <u>not</u> use students' gender as a criterion for making educational decisions about them.	0	0.0	5	4.3	3	2.6	30	25.6	79	67.5
3	Students should be the ones who must ultimately decide the kind of gender role they prefer to perform in society.	2	1.7	2	1.7	5	4.3	49	41.9	59	50.4
4	Teachers should discourage students from acting out gender stereotypical roles.	13	11.1	35	29.9	33	28.2	22	18.8	14	12.0
5	Teachers should accept males' stereotypical behavior such as being active and aggressive.	29	24.8	59	50.4	13	11.1	16	13.7	0	0.0
6	Teachers should accept females' stereotypical behavior such as being quiet and shy.	25	21.4	63	53.8	13	11.1	16	13.7	0	0.0
7	Teachers should be involved in shaping their students' perceptions about gender roles.	5	4.3	12	10.3	14	12.0	60	51.3	26	22.2
8	Teachers must prepare male and female students to fulfill different social roles because there are biological differences between the sexes.	25	21.4	51	43.6	21	17.9	19	16.2	1	.9
9	Teachers should encourage male and female students to enroll in courses that reflect societal stereotypes.	41	35.0	57	48.7	9	7.7	9	7.7	1	.9
10	Teachers should assign students to single-sex groups during class to protect females from being dominated by males.	63	53.8	48	41.0	1	.9	5	4.3	0	0.0

Item #	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
11	It would be appropriate if teachers separated male and female students for certain activities such as physical education.	17	14.5	42	35.9	16	13.7	37	31.6	5	4.3
12	Teachers should model gender stereotypical behavior. (n=116)	40	34.5	60	51.7	10	8.6	6	5.2	0	0.0
13	Teachers should reward male students for behaving in a gender stereotypical manner such as opening the door for female students.	19	16.2	41	35.0	27	23.1	28	23.9	2	1.7
14	It would <u>not</u> be appropriate for teachers to communicate stereotypical expectations to students.	2	1.7	11	9.4	12	10.3	62	53.0	30	25.6
15	15. It would be appropriate if teachers punished students for not behaving in a gender stereotypical manner.	65	55.6	41	35.0	6	5.1	2	1.7	3	2.6

APPENDIX G: FREQUENCY OF RESPONSES ON QUESTIONNAIRE ITEMS, PART C

#	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
1	Male students generally do better in math than female students.	18	15.4	53	45.3	16	13.7	30	25.6	0	0.0
2	Misbehaving female students should be reprimanded privately.	21	17.9	65	55.6	18	15.4	11	9.4	2	1.7
3	Boys generally possess more scientific skills than girls.	22	18.8	61	52.1	16	13.7	18	15.4	0	0.0
4	It would be acceptable for male students to call out answers when the teacher asks a question as opposed to female students.	73	62.4	44	37.6	0	0.0	0	0.0	0	0.0
5	It would be acceptable for boys more than girls to be punished strictly for misbehaving.	68	58.1	45	38.5	3	2.6	1	.9	0	0.0
6	Male students would require more eye contact with the teacher than female students.	41	35.0	61	52.1	11	9.4	4	3.4	0	0.0
7	Male students can be high achievers in math classes more than female students.	36	30.8	62	53.0	7	6.0	12	10.3	0	0.0
8	Male students more than female students would have the ability to solve sophisticated mathematical problems.	43	36.8	63	53.8	8	6.8	3	2.6	0	0.0
9	Misbehaving male students should be reprimanded publicly.	26	22.2	51	43.6	14	12.0	25	21.4	1	.9
10	Boys more than girls would enjoy using science equipment and performing experiments in science classes.	43	36.8	60	51.3	5	4.3	8	6.8	1	.9
11	Girls <u>cannot</u> perform as well as boys in advanced math courses such as calculus.	71	60.7	44	37.6	1	.9	1	.9	0	0.0

#	Item	SD		D		UD		A		SA	
		n	%	n	%	n	%	n	%	n	%
12	Boys and girls who misbehave should be punished in exactly the same way.	0	0.0	5	4.3	2	1.7	40	34.2	70	59.8
13	In science classes, female students generally participate as much as male students in laboratory activities and demonstrations.	1	.9	14	12.0	28	23.9	53	54.3	21	17.9
14	Male students generally need instructional contact in the classroom more than female students.	19	16.2	57	48.7	32	27.4	9	7.7	0	0.0
15	Misbehaving girls should be punished gently.	23	19.7	70	59.8	14	12.0	6	5.1	4	3.4
16	Boys generally dominate the math classroom interactions more than girls.	24	20.5	59	50.4	18	15.4	16	13.7	0	0.0
17	Boys generally demand more attention than girls.	23	19.7	55	47.0	13	11.1	24	20.5	2	1.7
18	In science and math classes, females generally volunteer answers as much as males.	3	2.6	22	19.0	20	17.2	55	47.4	16	13.8
19	Male students generally misbehave more than female students.	16	13.7	47	40.2	16	13.7	37	31.6	1	.9
20	Girls should have as much opportunity as boys to answer questions in all classrooms.	0	0.0	3	2.6	1	.9	23	19.7	90	76.9

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